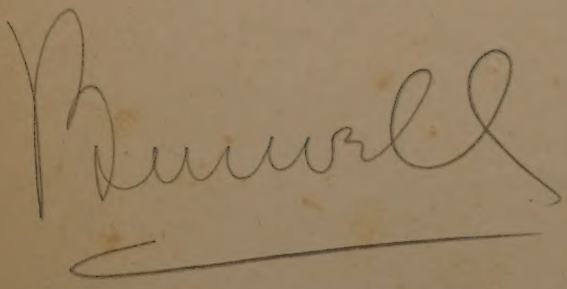

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ONE HUNDRED

SURGICAL PROBLEMS

THE EXPERIENCES OF DAILY PRACTICE
DISSECTED AND EXPLAINED

BY

JAMES G. MUMFORD, M.D.

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BOSTON
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PREFACE.

THE teachings of practice are conveyed by example as well as by precept. Until recent years writers knew and availed themselves of this fact. They set forth their lessons by case illustrations. Galen did this; so did Paré, — that master of the method; so did Wiseman and Le Dran, Hunter and Petit, Cooper and Paget. The method in proper hands is luminous, and the lessons are instantly comprehensible. We abused and nearly lost that method with the development of the statistical, analytical practice of the last century.

Three years ago Richard C. Cabot, following the suggestions of Cannon, and Burrell and Blake, saw the advantage of the old teaching by cases and wrote a little book about it. Others are following his example, each man illustrating his specialty.

This book, too, is another such publication. I have collected one hundred surgical cases, each one either a problem or an illustration of important features in diagnosis and treatment. Many of the cases are homely and commonplace. Obviously the names given to the patients are fictitious. Perhaps the reader will recognize the situations, and, for the solution of his own troubles, will turn to account the struggles of another.

J. G. M.

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ONE HUNDRED
SURGICAL PROBLEMS.

Case 1. Angus McPherson, an active Scotch gardener of thirty-six, entered my wards at the Massachusetts General Hospital in July, 1910. He was somewhat disturbed by the fact that both his father and mother had died of cancer of the stomach. His own early history had been rather stormy, with ten years of troublesome dyspepsia [1] after he attained his growth. He was a moderate drinker of whiskey, but his habits were otherwise good. He was married, and the father of four children. For ten years back, while able to perform continuous and laborious work, he had been disturbed by almost daily distress after food,— distress coming on about an hour and a half [2] after the meal, and always relieved by food or the drinking of water. On one occasion, some two years back, he vomited what looked like blood.[3] His notable contribution to the history of his own case, however, was the frank statement that one year previously he had been operated upon by gastroenterostomy for duodenal ulcer.[4] For three months after the operation he felt well and without any of his old symptoms. During the past nine months, however, digestive disturbances recurred, and, at the time of entering the hospital he was the victim of frequent sick headaches in the early morning, with obstinate constipation, gastric distress and flatulence about two hours after taking food, occasional vomiting of food only, and a general condition which he described as " no good."

The physical examination of this man was curiously inconsistent with his story. He appeared tall, vigorous, well nourished and of a ruddy countenance; his speech and bearing were not those of an invalid. His temperature was 98.4; pulse 66. All his discomfort was referred to the epigastrium, which was slightly distended and was tender on pressure everywhere between the costal arch and the navel.[5] There was tenderness also in the right costovertebral angle, with occasional pain shooting thence up towards the right shoulder.[6]

An analysis of his gastric content showed hyperchlorhydria, with a trace of blood, while a fecal movement secured by enema showed also a considerable trace of blood.[7] The urine was not abnormal; there was no mass to be felt anywhere in the abdomen; no tenderness, rigidity or spasm, except in the epigastrium; and no jaundice was present.

The patient was convinced that in some way his previous operation had broken down and that he could be cured by a second operation only.

[1] Ten years of dyspepsia, presumably not relieved by treatment, suggests strongly some anatomical lesion in the stomach or duodenum, the bile passages, the pancreas, the right kidney or the appendix vermiformis.

[2] Distress coming on an hour and a half after meals suggests a lesion of the pylorus, or, more properly, of the duodenum. We are satisfied that many cases which have been called gastric ulcer should be called duodenal ulcer, the lesion commonly being a mere crack or fissure of the mucosa beyond the pyloric sphincter.

[3] The vomiting of blood suggests gastric or duodenal ulcer, cancer, cardio-renal disease, or hepatic cirrhosis; but the vomiting of blood once only suggests as most likely a source of hemorrhage beyond the pylorus. Duodenal ulcer, however, is not an uncommon cause of hematemesis.

[4] The surgeon thinks of two forms of gastro-enterostomy, the posterior and the anterior. The posterior is the more commonly employed, especially in young men who are operated upon for non-malignant disease. Anterior gastro-enterostomy is employed generally to-day in cases of gastric cancer. One considers the causes of recurrence of symptoms after a presumable posterior gastro-enterostomy, and concludes that a partial closure of the stoma, or opening between the stomach and jejunum, would account for their recurrence. We have no detailed account of gastro-enterostomy performed in this man's case, but may assume that after its performance, and the healing of the ulcer, the pylorus became freely patent, the stoma became closed, and conditions which encouraged a return of the duodenal ulcer recurred.

[5] Pain and tenderness in the epigastrium suggest gastric or duodenal ulcer, disease of the pancreas or disease of the bile passages.

[6] Tenderness at the right costovertebral angle suggests strongly some lesion of the right kidney, though this pain is

sometimes seen in gall-bladder disease, in disease of the pancreas and in disease of the duodenum. Pain radiating towards the right shoulder suggests especially a gallstone endeavoring to escape through the cystic duct.

[7] Traces of blood found in the vomitus and in the stools by the guaiac test are not always significant, as the presence of animal foods may be detected by this extremely delicate test for blood.

When we considered his positive history of gastro-enterostomy for duodenal ulcer, and the recurrence of symptoms after the operation, we felt a reasonable assurance that the diagnosis of the present condition must in some way rest upon the previous gastro-enterostomy. I decided, therefore, to explore the man's abdomen, with the conviction that some anatomical derangement might be discovered there which would give us the key to the symptoms.

The operation disclosed a peculiar form of post-operative *hernia*, a condition which is described in all text-books, but is not commonly seen by operating surgeons. Immediately on opening the abdomen the stomach was discovered pressed forward against the anterior abdominal wall, while behind and below it there were felt tympanitic and bulging intestines. I turned up the omentum and transverse colon and revealed a coil of greatly distended and injected jejunum caught between the folds of the gastrocolic omentum. The reader knows that in performing a primary posterior gastro-enterostomy, when the omentum is turned up, the surgeon cuts through the posterior layer of the gastrocolic omentum, in order to reach the stomach. Through this cut in the omentum the loop of jejunum is passed for its anastomosis with the stomach. The omental rent should always be closed by stitching it to the stomach before completing the operation. It appears that in the case under discussion my predecessor had failed to observe this precaution of stitching. Consequently there was left alongside the jejunum a considerable channel, or rent, through which free portions of the jejunum burrowed as a hernia into the lesser peritoneal cavity. That segment of the jejunum which rested against the artificial omental ring had become greatly constricted. As a result, the hernial

portion of the gut was greatly congested and partially strangulated, while all the distal portions of the intestinal canal appeared pale, thin and contracted. Doubtless the condition of the hernia fluctuated from day to day, and possibly from hour to hour. I withdrew the jejunum, reducing the hernia, sewed up the rent in the omentum and stitched the omentum snugly to the posterior wall of the stomach.

During the third week of the patient's convalescence further evidence of obstruction necessitated another opening of the abdomen, when some troublesome adhesions were freed. Subsequently he was transferred to the medical wards to be "built up." He is now well.*

*A pleasant account of this case, assigning all credit for the patient's cure to his treatment in the medical wards of the hospital, is given in a recent number of the *Boston Medical and Surgical Journal*.

Case 2. Early in 1905 a physician asked me to see in consultation his sister, a woman thirty-five years of age and a school-teacher. She was the victim of frequent severe occipital headaches, — headaches so exhausting that she was sometimes confined to her bed by them for a week at a time. Her health was becoming undermined and she had abandoned her work. Until the summer of 1899, six years before I saw her, the patient had been in excellent health, but now her physical breakdown was becoming increasingly grievous. In addition to the headaches, she suffered from blurring of vision,[1] attacks of nausea and occasional sensations of distress and heaviness in the upper portion of the abdomen.[2] These disturbances had become more frequent during the preceding three months, and on half a dozen occasions she had been overwhelmed with violent attacks of vomiting, vomiting great amounts of food,[3] as from an overloaded stomach. In the course of six years her weight had fallen from 130 to 110, and she had become the victim of a pronounced melancholy. At the time I saw her she was in the sixth day of one of her attacks of headache and nausea. She complained then of pain following almost immediately after the taking of all food,[4] and of constant nausea. She stated that for a week she had lived on a scanty allowance of peptonized milk. She was constipated, obtaining a movement of the bowels but once a week, and then by the use of calomel. She had never been jaundiced, and the urine was found to be not abnormal.

In appearance this woman was an invalid with a long history. She was sallow, and there was a pronounced secondary anemia, with obvious emaciation. While an examination of the chest was negative, an examination of the abdomen was interesting and significant. The patient stood with rounded back,[5] flat dorsal spine and stooping shoulders; the lower portion of her abdomen was distinctly protuberant, while the stomach on percussion, after inflation with air, appeared to be enlarged to at least twice its normal size, and its lower border to sink three inches below the navel.[6] Although the stomach gave this appearance of distention and sagging, its transverse diameter also was great, for the gastric

tympany reached broadly across the abdomen [7]; the right kidney was tender and palpable [8]; there was tenderness over the appendix,[9] and extreme tenderness in the epigastrium, where the abdominal aorta could be felt vigorously pulsating. No mass, however, could be detected anywhere in the abdomen. The tongue was furred, the breath offensive, and the aspect of the patient miserable in the extreme.

[1] Blurring of vision is due to a great variety of causes, the most important of which are syncope, cardiac irregularity, arteriosclerosis, renal disease, pelvic disease, disease of the eyes, of the stomach, of the liver and of the intestines, and psychic impressions. The association of gastric symptoms with blurring of vision in this case suggests, of course, some stomachic derangement.

[2] A sense of heaviness in the upper part of the abdomen is due commonly to an overloaded stomach, whether from overeating or as a result of pyloric obstruction; to gastritis, to delayed gastric motility and to new growths.

[3] The vomiting of great amounts of food is usually due to one of two conditions. The common cause is overeating, and is frequently seen in the cases of children and young persons. The second cause is pyloric obstruction which results directly from dilatation of the stomach to a greater or less degree, to the accumulation of food in that organ, and to its ejection from time to time in enormous amounts, so that the patient may recognize food taken twenty-four to thirty-six hours previously.

[4] Common causes of epigastric pain following *immediately* after eating are gastritis and gastric ulcer. At the same time, one recollects that disease of the pancreas, disease of the bile passages, and even disease of the right kidney may result in pain immediately after the eating of food, which distends the stomach and presses upon those organs.

[5] The peculiar position assumed by this patient always suggests a visceral ptosis — a ptosis of one or more of the abdominal viscera, with dragging on the supports of the diaphragm and a greater or less derangement of the functions of the abdominal organs.

[6] When the greater curvature of the stomach is below the navel it suggests either a dilatation of a normally placed stomach or a descent (ptosis) of the whole organ, or a combination of descent with a dilatation. Mark this distinction, however, — in the case of dilatation alone the upper

border of the stomach is high, practically in its normal position, while in the case of descent of the whole organ both greater and lesser curvatures are much below their normal position.

[7] A broad reach of gastric tympany across the abdomen indicates a dilated stomach, not a displaced stomach.

[8] A tender and palpable right kidney commonly is associated with descent of the stomach, the transverse colon and other abdominal organs.

[9] Such a symptom of appendicitis as tenderness in the appendix region is extremely common in all cases of abdominal ptosis, and is common also in many cases of gastric disease.

Our preliminary clinical diagnosis in this case was a non-malignant pyloric obstruction, with dilatation of the stomach, associated probably with a certain amount of general abdominal ptosis. I operated and found the stomach greatly dilated, its lower border lying about two inches below the umbilicus, while there were numerous dense adhesions about the pylorus, holding that organ high against the liver. There was no evidence of ulcer in the pylorus, however, or in the pyloric end of the stomach; that is to say, there was no thickening, nor were there apparent scars. There were further adhesions between the gall bladder and the transverse colon. Such adhesions are due usually to the extension of an old inflammation, and we looked for evidences of such inflammation in the stomach, in the bile passages, and about the appendix. I found no sign of a pre-existing inflammation except the adhesions, however, and was at a loss to account for their presence, except on the assumption that there may have been a gastric or duodenal ulcer which had healed completely. The pylorus was obstructed, not from an organic thickening at that point, but from a high kink in the gut, due to the weight of the greatly distended stomach pulling down upon the pylorus. I have never seen benefit result from breaking up these adhesions, for they almost certainly form again. Accordingly, I performed the operation of posterior gastro-enterostomy.

The patient recovered slowly from the operation, but by the middle of the third week was sitting up and taking solid

food without symptoms of distress. Two weeks later her appetite was excellent and her strength greatly improved; she had begun to gain weight, and in appearance was quite a different person from the wretched invalid I have described.

My last interview with this patient was on April 4, 1907, sixteen months after the operation, when I made this note: "The patient reports in excellent general health, feels vigorous, and carries on her work with enthusiasm; the constipation is apparently cured and there are no gastric symptoms. Patient looks and feels very well."

Case 3. In November, 1905, John Hadlock, a shipmaster, brought to me his daughter, a young woman of twenty-four, who had been for some years under the care of a competent internist and had been treated for "acid dyspepsia." One could make little of her history, which was mainly negative. When a child of ten she seems to have had an attack of acute appendicitis,[1] which subsided without an operation,— an appendicitis lasting several weeks in all, bringing her into a condition of great prostration and rendering her an invalid for a year or more. For many years subsequently, however, she enjoyed the vigorous health of a growing, active, country girl.

Both the father and daughter laid great stress on the fact that some four years before I saw her she had taken a voyage with him to the West Indies, and had there suffered for some weeks with a prostrating malaria. No subsequent ill effects, however, seem to have persisted.

Why had she been under a physician's care for the past year of more? Her only complaint was a slight feeling of oppression after all meals,[2] and occasionally an intense attack of that peculiar burning distress in the esophagus which we have come to call "heartburn."[3]

A physical examination revealed two interesting and often associated conditions,— a stomach with a capacity of three quarts of water, and an extremely tender and palpable appendix.[4] The stomach was not prolapsed; the case was one of gastrectasia or dilatation. On distention of the stomach with air, the gastric tympany was found to reach from the left nipple to the navel, and widely across the abdomen. There were no other signs or symptoms of any significance. The urine was not abnormal, and the pelvic organs were said to perform their functions in a proper fashion.

[1] A single severe attack of appendicitis may leave behind it a long train of symptoms,— constipation, faulty metabolism, nausea, tenderness in various parts of the abdomen, malaise, small appetite, together with extensive adhesions involving many organs and depending on the spread of the peritonitis which was associated with the appendicitis.

[2] This sensation is due to lack of proper digestive activity,

and may be occasioned by disease of the appendix, bile passages, liver, stomach or pancreas.

[3] Heartburn is commonly due to gastric fermentation, and not to hypochlorhydria, as is frequently assumed.

[4] A chronic appendicitis may well have caused all the symptoms.

We made a clinical diagnosis of gastric dilatation, due to pyloric obstruction, but we bore in mind always the possibility of a chronic appendicitis as the causative factor in the case. I operated and found a stomach dilated, and not prolapsed, the lower border being one inch below the navel. The stomach was deeply injected in the pyloric region, where there were a few slight adhesions, the pylorus admitting the little finger with difficulty. The appendix was large, thickened, adherent, injected, and contained two small concretions. In other words, here were two processes, a pyloric stenosis and a chronic appendicitis. Posterior gastro-enterostomy gave the stomach proper drainage; at the same time I removed the appendix.

The patient made an excellent convalescence. Six weeks after the operation she reported to me, and looked vigorous, strong and rosy. One year later she reported again, in perfect health.

Case 4. Four years ago a physician of forty-eight consulted me because, as he said, he had heard me read a paper on the surgery of the stomach, and he added the further information that his own stomach needed mending. He told me a long and instructive story. Some twenty years ago, when a young practitioner, he had been overcome in the street by an agonizing attack of bellyache,[1] and had been carried to the Massachusetts General Hospital, where he was kept under observation for three weeks. During his stay there he had had two or three passages of blood from the rectum [2] and two or three acute attacks of epigastric pain,[3] relieved by morphia only. He was treated for gastric ulcer,[4] by starvation, by nutrient enemata and by absolute rest. At the end of three weeks he was so far recovered as to return to his work, which he had pursued vigorously ever since.

This physician's further physical history, however, had not been unclouded. Some three times during the past twenty years he had had severe attacks of pain similar to the one I have described, together with the passage of blood from the rectum, and twice associated with the vomiting of blood.[5] He informed me that there was a constant feeling of weight in the stomach, as though it were full of liquid, and a moderate sense of outward pressure after the taking of food. He stated further that when not tired or nervous his stomach emptied itself in six hours [6] of any moderate-sized meal, and that there was no conscious fermentation. At the same time, his bowels were regular. Furthermore, he said that during the past six weeks there had been a sense of moderate soreness [7] in the epigastrium and a feeling as of a bunch or swelling at the pylorus,[8] over which food was felt to pass, while the epigastric region was always slightly tender. He was troubled also by a frequent cough, without assignable cause.[9] The patient asserted his conviction that there was a gastric ulcer in the pyloric area,[10] and that this ulcer healed readily on starvation. There had been no hypochlorhydria for a year, while he had eaten ordinary food, with the exception of ripe fruit, without further discomfort than I have described. He said that he was seldom hungry, but that a complete loss of appetite always preceded the formation of a fresh ulcer. In other

words, his belief was that his ulcer came and went, depending on treatment; that he could produce an ulcer at will, and that he could cure it promptly by starvation.

This man seems to have had a remarkable capacity for living without food. Immediately after his first visit to me he retired to a quiet place in the country, where he lay in a hammock for twenty-one days, sustaining life by water only. This treatment so far allayed his gastric symptoms that he went away to the woods for a long vacation, but six months later returned to me with the statement that he was tired of his present mode of existence and wished an exploratory operation on the stomach.

The striking features in his case were the ready yielding of the disease to starvation treatment, and the patient's extraordinary capacity for enduring such treatment,— extraordinary when measured by average standards, for it is not improbable that most patients, if properly instructed, might be enabled, or might be induced, to retain comparative health by following a similar plan.

[1] Sudden, overwhelming bellyache may be due to gallstones, appendicitis, tubal rupture (in woman), hemorrhage, pancreatitis and the perforation of a gastric or duodenal ulcer.

[2] Blood from the rectum is commonly due to hemorrhoids, rectal cancer, or hemorrhage into the intestine high up, as from duodenal ulcer.

[3] The commonest cause of acute epigastric pain is gallstones.

[4] We must distinguish acute gastric ulcer from the chronic form. Acute ulcer is most common in young women; chronic ulcer is most common in men after thirty. Acute ulcer is cured by giving the stomach rest; chronic ulcer is improved, but rarely cured, by the rest treatment.

[5] Simultaneous vomiting of blood and passing blood by the rectum suggests a source of hemorrhage close to the pylorus, either in the stomach or duodenum.

[6] This lapse of time indicates little or no gastric stasis.

[7] Such moderate soreness suggests gastritis or a chronic gastric ulcer.

[8] This sensation would probably not be observed by a person unfamiliar with anatomy.

[9] Such a cough suggests irritation of the diaphragm.

[10] Three quarters of all gastric ulcers are in the pyloric area. Duodenal ulcers near the pyloric sphincter are almost equally common with gastric ulcers.

On opening this patient's abdomen I found extensive, tough adhesions matting the gastrohepatic omentum, the duodenum, the pylorus, the liver and the anterior abdominal wall. I separated the anterior adhesions, but was careful not to break up the adhesions between the pylorus and the liver, in order to avoid possible hemorrhage and a biliary fistula, with the thought in mind also that a posterior perforating duodenal ulcer might lie outside of the peritoneum. These dense pylorohepatic adhesions held the duodenum high and kinked. The pylorus admitted a little finger tip with difficulty. There were dense, thick scars the size of a silver dollar in the posterior duodenal wall, two inches from the pylorus. The stomach was distended with gas, its lower border about two fingers' breadth below the navel. There was no sign of disease in the stomach itself; there was no evidence of disease of the bile passages; the pancreas did not appear abnormal. I performed posterior gastro-enterostomy, though I would have been glad to do a pyloroplasty by Finney's method had the duodenum been normally movable.

Thirteen days after the operation this physician stated that he felt greatly improved, and described a feeling of freedom and ease in his epigastrium. Fifteen days after the operation he went away to his summer camp. In the four years since the operation he has had no digestive disturbances.

Case 5. Frank Ridlon was operated on by me at the Massachusetts General Hospital in July, 1906. This unfortunate man was thirty-six years old when he went to the hospital. He had led the active, vigorous, alcoholic life of a lumberman. For four years he had suffered from increasing gastric disturbance, and had the characteristic symptom of dilatation of the stomach, — the vomiting of enormous quantities of food two or three times a week.

I performed a posterior gastro-enterostomy on this patient, though, as subsequent events demonstrated, I might better have done a pyloroplasty, giving the stomach free drainage directly into the duodenum. The man's stomach was greatly distended, the lower border being four inches below the navel, and his jejunum showed an abnormality, interesting to anatomists and to surgeons: the ligament of Treitz, that fold which separates the duodenum from the jejunum, was found to be unusually placed, so that the jejunum, instead of springing from the left side of the spinal column was found to spring from the right side of the spinal column. This fact struck me as interesting, but its significance and its bearing upon the operation of posterior gastro-enterostomy did not occur to me at the time. The gastro-enterostomy was done with a short loop, making the length of the jejunal limb four inches from ligament of Treitz to the stoma in the stomach.

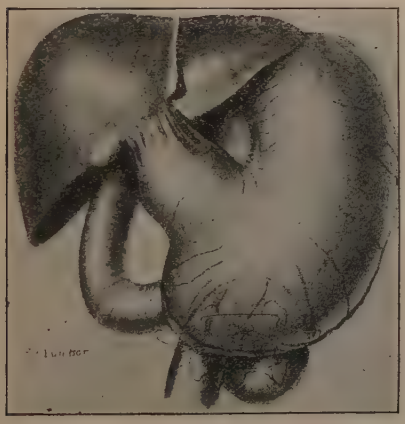
The next day the patient felt unusually well; he was free from nausea and pain, took water and broths readily, and found his appetite returning. This satisfactory condition lasted four days, when I regarded him as cured. On the evening of the fifth day, however, he was seized suddenly with agonizing pain in the epigastrium; he collapsed; his pulse went quickly to 160; his temperature fell to 96; he became cold and clammy and presented all the evidences of dissolution; stimulants failed to help him; he remained in collapse for some twelve hours and then died.

The unforeseen calamity puzzled me exceedingly. The autopsy revealed an extremely interesting situation; the short four-inch loop of jejunum proximal to the stoma was found drawn very tense, and the jejunum itself was almost completely torn off from the stomach, so that the stomach con-

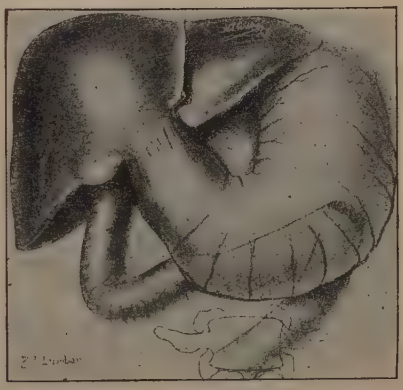
tents had poured out into and filled the abdominal cavity. The patient died of the shock.

After I had published the case some months later, I was interested to find that the significance of this arrangement had not then occurred to other surgeons.

We explain the autopsy findings as follows. The short four-inch jejunal loop at operation had been attached easily to a low pyloric portion of the greatly dilated stomach. With the consequent relief to pyloric obstruction, the cause of the stomach's dilatation was removed, and that organ proceeded to contract back into its normal position and dimensions. As it contracted, it drew up with it the jejunal loop, and that loop, springing as it did from the right side of the spinal column and not from the left side, proved to be too short. Had it sprung from the left side it would still have accommodated the contracting stomach. As it was, the stoma was drawn so far over to the left that it dragged unduly upon the proximal loop, so that there resulted the fatal accident which I have described.



Dilated stomach. Pyloric adhesions. (Author's case, *Annals of Surgery*.)



Dilated stomach. Pyloric adhesions. Gastroenterostomy. Stomach partly retracted. (Author's case, *Annals of Surgery*.)

Case 6. Peter Smith, a shriveled and neurotic farmer, consulted me for indigestion, in the autumn of 1909. He was forty-eight years old, and said that he had been a dyspeptic for ten years.[1] Seven years before I saw him he had had a severe attack of general abdominal pain, which passed off without special treatment[2]; but always since then, after slight exertion or excess in eating, he had felt gastric distress and as though there were a load on his stomach.[3] He had chronic constipation. Two days before I saw him he had a severe attack of pain in the epigastrium,[4] which gradually shifted around to the right, following the border of the ribs, along no definite anatomical line. He was relieved by rest and the drinking of hot water, but still a slight pain persisted, beginning in front, about three inches above the navel, and following the course of the ribs.[5] His chest and urine were not abnormal. There were no other symptoms.

Mr. Smith was a short, slight man, weighing one hundred and thirty-eight pounds, and anxious looking. His abdomen was not peculiar, and nowhere could I discover pain or tenderness except at a point in the middle line two inches below the xiphoid cartilage,[6] where there was marked tenderness on pressure. Nowhere else in the abdomen were there any signs whatever. This man's age and the long continuance of the disorder led me to suspect cancer of the stomach. An analysis of the stomach contents seemed to confirm my suspicion; the stomach was not dilated; there was no free acid from the fasting stomach; the guaiac test was positive of hemorrhage; there were a few Oppler-Boas bacilli, with a few blood corpuscles and occasional squamous cells.

A teaspoonful of bright blood followed the withdrawal of the tube. After an Ewald meal there was a total free hydrochloric acid 0.014 per cent, with a total acidity 0.13 per cent. This examination suggested that the trouble was in the fundus rather than at the pyloric end of the stomach.

[1] The symptoms in this case are extremely confusing and point to a variety of organs. A long-continued dyspepsia of the kind suggests especially chronic duodenal ulcer.

[2] One remote attack of pain of this nature suggests especially acute appendicitis.

[3] This symptom again suggests duodenal ulcer, with pyloric obstruction.

[4] Such an attack of pain as he described pointed to perforating peptic ulcer, or gallstones, or acute pancreatitis, or gastromesenteric ileus as probable.

[5] This meaningless course of the pain, taken together with the patient's general appearance and temperament, suggested a neurotic state without anatomical foundation.

[6] The location of the pain in the epigastrium pointed again to ulcer or cancer of the stomach, to gallstones or to pancreatitis.

Abdominal section revealed the following interesting facts: all the upper portion of the abdomen was found free from adhesions of any sort; the stomach was normal in size and position, and the palpating hand revealed no abnormalities whatever; there was no thickening anywhere, no scars, no enlarged lymph-nodes; the stomach was pale, rather than the reverse; the pancreas was not peculiar to the touch; the bile passages were free from disease; the pylorus and duodenum presented no abnormal features; the intestines were pale and empty. The appendix, however, showed marked evidence of a long-time disturbance; it was thickened, segmented at the tip, and closely adherent to the colon and to the side of the pelvis. I removed the appendix and closed the wound.

The patient made an excellent convalescence. On the fourth day his appetite returned and his diet was increased. He left the hospital on the eleventh day, and two weeks later came to see me, reporting that he felt well. Six months after the operation he wrote me that he was well, and able to do a full day's work without discomfort, while his weight was steadily increasing.

Case 7. On the 1st of April, 1910, I went to a remote village in Maine, at the call of a consultant, to operate on a middle-aged farmer who had long been the victim of a serious stomach ailment. The patient, Alfred Gorham, was fifty-six years of age. For two years, or possibly longer, he had suffered from increasing digestive disturbances, with eructations, constipation, occasional nausea. He had lost fifty pounds. He had consulted numerous physicians, and a year before I saw him had been advised that he could live but a few weeks. His unusual vigor and force of character apparently combined to carry him along.

My examination of this man showed him to be considerably emaciated, pallid and cachectic, though his frame was large and his heart action vigorous. Beneath the parchmentlike and retracted skin of his abdomen I felt readily a mass the size of a man's fist, situated in the middle of the epigastrium. I was obliged to confirm the obvious and inevitable diagnosis of cancer of the stomach which had been made before by his other physicians, but I was presented with one of those serious problems of treatment which every surgeon must face from time to time. The man was starving, and was in misery with thirst and an unsatisfied hunger. He begged me to attempt an operation for his relief, even though the operation should prove fatal.

I operated and found a familiar, characteristic condition within the abdomen. The whole pyloric area of the stomach was involved in cancer; the pylorus was choked, the transverse colon, gall bladder and omentum were invaded by the disease, and extensive cancerous nodes filled the gastrohepatic omentum; the stomach was tied down posteriorly to the pancreas.

I performed rapidly and satisfactorily an anterior gastroenterostomy, with a long loop. The time consumed in the operation was short, and the patient was put to bed in fair condition. The next morning I received the following note from his physician: " I regret to inform you that our patient, Mr. Gorham, never rallied from the shock, and died at 2 A.M. to-day."

I report this rather commonplace case because it may help

to answer the question which a family physician so often asks himself,— a question which is frequently presented to the operating surgeon also,— Is a palliative operation in advanced cancer of the stomach ever permissible? I believe that it is so. I have nothing to regret in connection with the case of Mr. Gorham. There were two possible outcomes of the operation, and these outcomes were carefully explained to the patient and to his family: he might never rally from his anesthetic, and in that case would experience euthanasia; or he might rally and live many weeks in a condition of comfort vastly different from the misery of the previous six months.

Case 8. Some ten years ago Eliot Sears, a man of forty-five, came into my office, with an apology for his trifling errand, and showed me beneath his mustache, on the left side, near the middle line, a slight pustule which was giving him some annoyance.

This man was of a distinctly neurotic type, and had retired from business a year before because he found himself unable to stand the strain of a confining and anxious office life. His previous history was in no way remarkable, except that on two occasions he had suffered severely from a sub-deltoid bursitis. In other respects at the time of his visit to me he was sound, and had passed a healthful and vigorous year in out-of-doors life.

On examining his upper lip I could find nothing but the trifling pustule [1] of which he told, a lesion about as large as the head of a small pin, with a very slight reddened aureola about it. I opened it, gave him an alcohol wash, and telling him to let me know if he was not comfortable on the following day, I sent him off expecting to hear nothing more from him.

The next morning, about four o'clock, I was summoned to his house, and found him pacing the floor in great distress, apparently mental, professedly physical. He pointed to his lip and intimated that he was unable to speak. On examining the lip this second time I found it considerably swollen and indurated about the site of the little pustule, which had now taken on the appearance of a small boil.[2] It was about the size of a gold dollar, red, elevated, indurated, with a crater, from the center of which a drop of pus could be squeezed. The culture taken later showed the organism to be staphylococcus aureus. Besides his swelling of the lip, the patient exhibited a cheek which was becoming tense and shiny, while his eye was partially closed by the swelling. His pulse was 90, his temperature 100°. The condition was distinctly alarming to Mr. Sears, and gave me at once a feeling of con-

siderable apprehension. I explained to him the nature of the affliction [3] which had befallen him, and advised his taking an anesthetic and having an immediate operation.

[1] Infections of the upper lip are rare, but when present are often persistent, and are liable to spread rapidly on account of the extreme vascularity and abundant lymphatic connections of the lips and face.

[2] So virulent an infection as I have described here must be met with our most active measures; no halfway treatment will suffice. One may not say whether the lesion at this stage was a small boil or a carbuncle. The distinction is not always obvious, but the only safe treatment is a rapid and thorough *excision*. Sometimes deep crucial incisions will suffice, but they are less effective, because they fail to remove the cause of the infection and provide efficient drainage.

[3] A patient suffering from carbuncle of the upper lip must be handled vigorously, and must be made to understand thoroughly the urgency of his case. Carbuncle of the upper lip is far the most dangerous form of carbuncle. Many patients die of it. The infection spreads rapidly, causing a septic phlebitis which involves the facial vein, the veins of the orbit, and so the cavernous sinus, with a resulting septic meningitis and death, the whole course of the disease being but a few days. To-day, with opsonic vaccines at our command, the surgeon is justified in attempting to abort the carbuncle by simple incisions and the injection of autogenous vaccines, that is, provided he sees the case in its earliest stages. Such a case as I have here described, however, must be treated at once by excision, and the vaccines given later, if at all.

I was obliged to shave the patient's mustache, an operation which seemed to mortify him extremely. I then administered ether and excised cleanly the inflamed area, taking out a cone of disorganized tissue, with the base as large as a little fingernail and the tip reaching nearly to the mucosa on the inner side of the lip. His temperature fell to normal during the day, his pain subsided almost instantly, and before the mustache had grown an inch the wound had cicatrized.

This is an admirable example of the efficacy of prompt dealing with carbuncle of the lip.

"SEIZURES."

Case 9. On the 17th of August, 1906, Mrs. R. P. Cornice consulted me regarding her daughter, a vigorous, athletic girl of eighteen. The patient had suffered from none of the ordinary children's diseases, and until the age of sixteen had been well, except for some intestinal disorder at the age of ten, a disorder which was not apparent when I saw her. Further, at the age of fifteen she had had a disturbing mucous colitis,[1] which lasted about six months. In spite of these illnesses, however, she had been able to go to school, and was well developed, physically and mentally. For the two years preceding her eighteenth year, however, she had been suffering from increasingly frequent epileptiform convulsions,[2] as they were described to me by her mother,— general convulsions, coming on at first once a month and now seizing her every five or ten days, convulsions not marked by the activity of any special set of muscles, and generally appearing at night. Her mother spoke of them as causing loss of consciousness, flushing of the face, clinching of the jaws, occasional biting of the tongue, and rigidity and spasms of the trunk, legs and arms. They would last anywhere from five minutes to half an hour, and were obviously of the familiar so-called idiopathic type. The mother assured me that the family history pointed to nothing which threw light on her daughter's condition. She was convinced, however, that the seizures were due to some internal derangement, and begged me to make a thorough examination of the girl, especially of her pelvic organs.

I consulted a well-known neurologist the next day, and with his coöperation made a careful examination of the patient. She was, as described, well grown, of good color, in good flesh, ruddy and intelligent. She professed to have little knowledge herself of the time or nature of her seizures. There was no history to be obtained of injury to the head; the chest was negative, and the abdomen was negative as far down as the

pelvis. The pelvic organs, however, showed certain abnormalities. The uterus, while of good size, was retroverted in the third degree, and on the right side there was felt a small tumor, corresponding to the position of the right ovary, a tumor cystic to the feel and about the size of a small lemon. This examination of the pelvis was made with the patient anesthetized.[3]

[1] We are accustomed, justly or unjustly, to associate the term " mucous colitis " with a neurotic state — with a disturbed psychic equilibrium. Our present knowledge of visceral ptosis, however, should lead us generally to expect a descent of the large intestine in cases of mucous colitis. Visceral ptosis in its turn is a common cause of disturbed metabolism, associated with an abnormal psychic state.

[2] Epileptiform convulsions coming on in a vigorous young woman suggest often a reflex cause for the convulsions. The serious idiopathic epilepsy develops usually in childhood. Convulsions of a reflex origin may be due to any irritant, from an ingrowing toenail to a pyloric obstruction, and warrant the most careful and thorough investigation. In young women, especially, the physician should examine carefully the pelvic organs.

[3] The painstaking physician, when examining the pelvic organs of a young girl, will find it both humane and clinically advantageous to anesthetize his patient.

A week later I operated on this patient by the transverse, or Pfannensteil, incision, and found the conditions I have already described. The uterus was extremely retroverted and there was a cystic right ovary about the size of a lemon. I suspended the uterus by stitching the round ligaments over the recti muscles, and I removed the right ovary.

No psychic disturbances whatever followed the operation immediately, and the patient made a perfect and satisfactory recovery, without the slightest evidence of twitching or convulsions during her two-weeks' stay at the hospital. Sixteen days after the operation I made this note: " No symptoms since the operation." Twenty days after the operation there was reported a night terror, which may or may not have been associated with her convulsions. Two months later the mother called on me and described two extremely

slight night attacks, but informed me that they were insignificant, as compared with her previous attacks, and were far apart; that is to say, during the six weeks following the operation there had been three questionable attacks, all of them slight and well distributed. On the 31st of August, 1910, her mother sent me a report stating that her daughter " is much better, but not entirely well. Many of the symptoms have utterly disappeared, and the doctor assures us that she will be absolutely well. I see a great improvement, and cannot but feel greatly encouraged and happy in regard to her."

Case 10. On November 7, 1907, a physician in the neighboring town of Morton sent to me Miss Cutler, a young girl of eighteen, for diagnosis. The patient's mother informed me that she and her physician were becoming increasingly anxious about the girl's health, because she was subject to severe headaches and dizzy spells.[1] I found it difficult to obtain a description of these dizzy spells. They occurred frequently at night, and were said to be so severe that the patient would fall out of bed. Her mother thought that sometimes she was temporarily unconscious. On one or two occasions she had observed twitching of the lids, rolling of the eyeballs and stiffening of both arms. These "spells" had been infrequent, the last one six months before I saw the patient. Her general mental condition, however, was unsatisfactory. On cross-questioning the mother, I learned that the daughter was growing increasingly backward in her studies, finding it difficult to keep up with girls two and three years her junior; her memory was somewhat impaired, and her interest in the usual amusements of her age was slight.

I found Miss Cutler to be a dull, heavy-looking girl,[2] appearing somewhat older than her given age. She answered direct questions slowly and cautiously, with a heavy smile, and appeared to take little interest in her visit to my office and in her own condition.

Her mother informed me that up to the age of thirteen her daughter had been a normal, vigorous child. At that time catamenia was established. The flowing had always been irregular and infrequent, sometimes the periods skipping five, six and seven months. The family physician informed me that they were anxious about the girl's mental state, that they feared a possible epilepsy, the fear being strengthened by the fact that her father had been a chronic alcoholic and had at one time been confined in an insane hospital. The question presented to me was, — Is this patient *physically* normal?

I made a careful physical examination, and found little that appeared wrong. The thoracic organs were not peculiar; the digestive apparatus seemed healthy; but the pelvic organs were slightly abnormal. There was a considerable

excoriation about the vulva, as though the patient was addicted to masturbation, and she admitted that she frequently scratched and rubbed the parts. The introitus was loose, the vagina flaccid, the uterus rather small and movable and retroverted in the second degree, the cervix thin and soft and the os unusually small. The rectum was loaded with hard masses, and the patient informed me that she was a victim to constipation and was troubled some with a leucorrhea.

My judgment at that time led me to try palliative measures to improve the girl's general condition, and our success in these measures was considerable. Proper exercises, laxatives and a long course of massage improved the bowel action,[3] and the companionship of an intelligent nurse broke the girl of her habit of masturbation. For more than a year her condition improved, and we began to feel that the improvement was permanent. In January, 1909, however, her mother came to me in great anxiety, and told me that her daughter had again become subject to the ill-defined seizures which I have described, and begged me to attempt any operation which I thought would benefit her condition.

[1] Dizzy spells of the sort suggested may be due to a great variety of causes, and in young girls are most commonly due to menstrual or digestive disturbances.

[2] This mental deterioration, combined with the indefinite history of loss of consciousness and " dizzy spells," must be viewed with grave suspicion, and the thought in her physician's mind, coupled with her father's insanity, should lead us to regard the attacks as probably of an epileptic nature. With this case again, as with Case 9, however, we are somewhat comforted by the fact that the attacks made their first appearance after puberty, that up to the age of thirteen the patient was well and vigorous. With this fact in mind, one should not jump at once to a diagnosis of confirmed idiopathic epilepsy, but should consider seriously the probability of epilepsy of the reflex type. Every physician knows, however, that the parents of an epileptic child look for some irritant as a reflex cause. We should not be misled by the biased statements of parents in reaching a diagnosis.

[3] These measures obviously are directed to the possible reflex cause of the seizures; and the temporary but long-

continued improvement which resulted tended to confirm our first feeling that the cause of the seizures was reflex. Long subsequently I learned in a discussion of the case with the patient's mother that a disturbing and agitating love affair may have had much to do with bringing on a recurrence of the seizures.

On January 28, 1909, I operated on the patient. I found the pelvic organs about as I have described them. The uterus was small and slightly retroverted, the cervix long and tapering, the os extremely narrow, both ovaries were small, though the condition can scarcely be described as infantile. I dilated thoroughly the cervix, and stitched into the os a medium-sized glass tube, which reached beyond the internal os and was left in that position for two months. I dilated the sphincter ani also, with the purpose of improving the constipated habit.

Eight days after the operation the patient went home feeling well. During the following five months her menstrual condition improved greatly, for she had four periods during that time. The state of the bowels also was satisfactory and did not call for the use of cathartics. Six months later I learned by letter from the patient's mother that the catamenial periods seemed to be normal and regularly continued, that she had had no more "seizures," that her mental condition was greatly improved and that she appeared bright, alert, interested and like a normal girl of her years.

EXPLORATORY LAPAROTOMY.

Case 11. On the 26th of October, 1900, Mr. Henry Lemoyne, a man of forty-four, and a Bostonian, but for the two previous years resident in Cuba, consulted me, with the story that he had had a " spell of fever " six months before while in Cuba, but that he had thought no more of it until within the past thirty-six hours, during which hours he had passed bloody urine[1] twice and had experienced a dull pain in the pelvis and left loin. He informed me further that he was obliged to return to Cuba on the following day. He recognized no other symptoms, and stated that he led an active life as a planter.

When I saw him his appetite was good, his bowels regular and his appearance that of a vigorous though somewhat tired man. A physical examination revealed nothing of any great importance. There was a considerable varicocele on the left, and a catheter specimen of urine showed macroscopic blood; the urine had a specific gravity of 1028, it was neutral, contained about one per cent of albumen, and a dark reddish sediment, in which were numerous red blood disks, with a granular detritus; there was an abundance of urates but no epithelium was found. An examination of the blood showed no malarial organisms.

In view of Mr. Lemoyne's residence in the tropics, and his history of malarial fever, I made a diagnosis of malarial hematuria, a rather frequent condition in the West Indies. He went back to Cuba the next day, with directions regarding his diet and the use of quinine. Five months later I saw him again in Boston. His health was somewhat better, though he had had two slight hemorrhages " from the bladder " in the interval. I examined him with great care on this occasion, and found a tumor in the left hypochondrium,— a tumor about the size of a man's fist, movable and protruding from under the ribs about four inches below the costal margin. I took this to be an enlarged spleen, and conducted the case

with this understanding, and on the basis of chronic malaria, for several months. By the middle of May the tumor had diminished one half in size, and the patient had gained five pounds and was feeling very well. Dr. Osler saw him with me about the middle of June, and was inclined to believe the tumor to be of the kidney, rather than of the spleen, though his conviction was not final on that point. Within the next two weeks Dr. A. T. Cabot saw the patient also, and agreed with me that the tumor was probably splenic. The blood examination was not at all definite, and threw little light on the diagnosis. Dr. Cabot agreed with me that an operation was inadvisable, although Dr. Osler had suggested the wisdom of an exploration. The usual maneuver of blowing up the colon with air [2] gave us surprisingly little help in arriving at a diagnosis. The distended colon appeared to lie behind the tumor and to push it upward and inward.

After the patient had had three more months of continual anti-malarial treatment his tumor was distinctly smaller and he felt greatly better. By the 4th of October, however, one year after Mr. Lemoyne's first consultation with me, it became apparent that his progress was not satisfactory; the tumor still persisted, there were occasional hemorrhages, and the patient's general condition had been deteriorating for six weeks. Further consultations and examinations followed with Dr. A. T. Cabot, Dr. R. C. Cabot and Dr. F. C. Shattuck, the upshot of all of which was that we were unable to determine definitely the nature of the tumor, but found a decided secondary anemia, and reason enough in the patient's condition for making an exploratory operation.

[1] The causes of hematuria are numerous enough; one thinks especially of bladder tumor, of acute infections of the bladder, of renal stone and of renal tumor. Besides these, there is the well-recognized malarial hematuria of the tropics. In the case of Mr. Lemoyne we were justified at first in ruling out lesions of the bladder and kidney, because no tumors could be felt, nor did the urinary examination point to damage of those organs; indeed, at no time was the sediment positively indicative of bladder or renal disturbance.

[2] A colon distended with air overlies the kidney and masks a kidney tumor; conversely, a distended colon should push

up before it and cause to protrude anteriorly a tumor of the spleen. In the case under consideration we seem to have been misled by the size of the tumor and the possible slipping aside of the distended colon, which occasionally is extremely movable on account of a long mesocolon or mesosigmoid.

On the 12th of October, Dr. A. T. Cabot explored the patient's abdomen, opening down upon the tumor through a lateral incision and turning aside the peritoneum. The operator's hand behind the peritoneum discovered instantly that the tumor was a tumor of the kidney, while a normal spleen could be palpated high under the costal arch. The tumor — a sarcoma — had by this time reached a considerable size, and was as large as two closed fists, at least. It was removed readily, but, unfortunately, masses of what appeared to be malignant tissue were found involving the veins and extending into the pelvis of the kidney. The patient made the expected prompt recovery from the operation, but metastases rapidly developed. Two months after the operation he had a succession of convulsions and experienced a period of unconsciousness, with symptoms suggesting a metastasis in the brain. Eventually he died, after a tedious illness, about four months after the operation.

There were several unusual and interesting points in the case of Mr. Lemoyne. His history of malaria and his long residence in the tropics were misleading; his apparent improvement under anti-malarial treatment was puzzling; the slow growth of the tumor and its apparent shrinkage at times led us away from a true diagnosis; while the test of distending the colon failed entirely to give the usual evidence. In a word, here was a case of sarcoma of the kidney which went unrecognized for more than a year, although seen and studied by a number of competent persons.

PERFORATED ABDOMEN.

Case 12. On the afternoon of April 8, 1910, I was called hurriedly into the country to see a man who was said to have received a severe abdominal wound within the hour. I report his case because it illustrates the possibility of recovery from injuries of the most serious nature. The patient, Martin Pierce, was thirty-one years old. A large, powerful, athletic young man, six feet two inches in height, whose occupation was that of a sawyer; that is to say, he operated a saw mill and used commonly a circular saw of great weight.

At the time of his injury, he was standing at the door of his mill, about eight feet from the machine, when the saw burst, and one heavy piece, shaped like a lance-head and weighing some fifty pounds, flew against him with great violence, and penetrated his abdomen. Covered with blood, and with protruding intestines, he was carried to his house near by, and was seen almost immediately by his physician, who summoned me.

When I arrived there, two hours later, I found the patient in excellent condition. The bowel had returned into the abdomen, the wound was carefully bandaged, the man's pulse was 76, and his temperature 100°. He was quite rational, and did not appear particularly ill. There had been no evidence of hemorrhage from the rectum,[1] nor was blood found in the urine. His heart action was vigorous, and his lungs sound. On exposing the abdomen, I found a ragged three-inch wound through the left rectus muscle, just above the level of the navel.[2] The bandages were not very bloody, and my first impression was that the wound was merely a damage to the abdominal wall. With the patient under ether, I rapidly enlarged the wound, and explored the abdominal cavity; immediately there was a great gush of blood and clots, mingled with some fecal matter, in all something over a pint. I turned out the neighboring intestines, and disclosed three

large spurting arteries in the mesentery of the jejunum. The jejunum itself was lacerated at two points. The neighboring transverse colon fortunately was not damaged.

[1] The passage of blood from the rectum is traditionally regarded as evidence of intestinal perforation. In practice, such passage of blood, associated with intestinal perforation, is not especially common, since a paralysis of peristalsis usually follows immediately on intestinal trauma. The examining surgeon may find, on percussion, evidence of free gas in the abdominal cavity; — tympany over the liver, for example.

Some operators have sought to demonstrate intestinal perforation by pumping air or some harmless gas into the rectum, and looking for its escape into the abdominal cavity. Such measures are needless, inexact, and time-consuming. In any case of doubt, the surgeon should explore promptly the abdominal cavity.

[2] A penetrating wound at this site suggests damage to various viscera, depending on the direction of entrance of the projectile. One expects for a certainty to find wounded intestines, but in addition one must look for wounds of the stomach, pancreas, the left kidney, the ureter, and, most important of all perhaps, the large arterial and venous trunks. Damage to the urinary apparatus is nearly always followed by escape of blood into the bladder, unless the ureter is severed.

Demonstrate bloody urine by catheterizing. Damage to the stomach and pancreas is commonly followed by vomiting and profound collapse. Damage to the great blood vessels results in death in a very few minutes.

Having satisfied myself that the damage in this case was confined to the intestines and the mesentery, I rapidly repaired those structures, taking great pains in suturing the mesentery not to cut off the blood supply from the intestines. In order further to provide for possible intestinal necrosis, the damaged gut was wrapped in two gauze wicks, which were led out of the abdominal wound as drains. The abdominal cavity in the neighborhood of the wound was carefully wiped out, not irrigated, and the abdominal wound was partially closed about the drainage wicks.

At the end of the operation, the patient's condition was excellent, and his pulse 80. He was put to bed in a semi-

upright position, and the gentle continuous rectal injection of salt solution was begun (proctoclysis).

This injection succeeds admirably in keeping down thirst, in supplying fluids to the circulation, and in stimulating an abundant drainage from the abdominal cavity.

Greatly to my satisfaction, the patient recovered without a bad symptom. At the end of three days, he was taking liquids by the mouth; at the end of a week he was put upon a fairly nutritious diet, and at the end of six weeks his physician reported him as practically well and about to return to work.

Case 13. On the 21st of December, 1908, Mrs. Henry Ford, a young matron twenty-three years old, was brought by her mother-in-law to consult me. One could scarcely look for a greater contrast than these two women presented; the young patient, slight, girlish, pink cheeked, diffident; the elder woman, robust, mature, masterful, bearded, strident.

I heard little of her story from the patient in that interview. The mother-in-law held the floor, and described in embarrassing detail the character, the symptoms and the sufferings of her daughter. I was told that the young woman was her husband's social inferior, that the two young people had made a runaway match; that the patient was a mere schoolgirl, uneducated and hysterical; that she was dependent for her living on her husband's mother; that although married five years she had never been pregnant; that for three years she had complained of excessive pain at the beginning of or immediately before the catamenia, which came every twenty-six days; that the pain was excruciating, low, median and shooting into the right breast and down both legs [1]; and that the pain was relieved after the passing of a few clots. The mature speaker proclaimed the patient's symptoms to be more or less fanciful, but admitted that she had borne no children, and that something should be done to relieve her sterility.[2] I was allowed to examine young Mrs. Ford without the presence of her mother-in-law, and learned that the description of her symptoms was correct. She appeared as a young girl; I found nothing peculiar in the abdomen, but in the pelvis a uterus of small size, retrocessed and retroverted. The cervix was long, and the os extremely small.

[1] This train of symptoms and pain preceding the flow suggest especially two possible derangements, either an ovarian neuralgia, due to the pelvic engorgement always preceding catamenia, or to an obstruction to the outflow from the uterus by an abnormal and narrowed pass. I have found

ovarian neuralgia of this type to be readily cured by cutting the ovarian nerves in the broad ligaments. This does not interfere with the generative function. Obstruction at the os must be treated by some form of dilatation.

[2] Every practitioner will recognize the absurdity of the interview I have described. Doubtless in many cases a young girl, or a married woman who has not borne children, should interview her physician in the presence of an experienced member of her family, but the physician will do well always to talk later with the patient in private, if he is to get at the true facts of the case, and the patient's version of her ailment. Needless to say, a pelvic examination should always be made in the presence and with the assistance of a nurse, whenever possible.

I employed a simple operation for Mrs. Ford's relief. First, the long, tapering cervix with its narrow os was widely dilated; then a thick hollow glass plug was stitched into the cervix with catgut, and made to penetrate beyond the internal os. The abdomen was then opened by the transverse Pfannensteil incision; the uterus was drawn up, and secured in a position of normal anteversion, by crossing and stitching together the round ligaments outside of the recti.

I think highly of the transverse incision in the case of simple work within the pelvis. This incision after healing leaves the patient with an unusual sense of strength and support, while incidentally the resulting scar is almost imperceptible.

Two weeks after the operation Mrs. Ford went home. At the end of six weeks the plug came out; her subsequent menstrual period was painless and normal, and in due course she became pregnant and went on to an uncomplicated confinement.

Case 14. On the 9th of June, 1908, a married woman, fifty-six years old, consulted me regarding a swelling in her breast. She was a stout, vigorous, active person, accustomed to exacting work as the keeper of a lodging house, and little introspective. She told me she had always been well, except for frequent and somewhat disabling attacks of "chronic rheumatism."[1] She then informed me, with a note of apology for my trouble, that for four years previously she had carried a lump in her left breast. Incidentally, she had never borne children. At various times during the four years she had shown the lump to her family physician, who made light of it, and assured her that it was just one of those lumps common to fat women in their advancing years. She had therefore disregarded the lump until two weeks before I saw her, when she found it to have become obviously larger. This alarmed and distressed her a good deal, although there were no further symptoms, no impairment of her general health, and no pain. I examined both breasts carefully, and found in the left one a small tumor, not at first apparent, owing to the great size of the woman's breast, which must have weighed ten or twelve pounds.[2] The tumor was about the size of a child's fist, and was placed in the inner and upper quadrant of the breast. A further enlargement of the tissues was found along the pectoral line, running up towards the axilla, but no enlarged nodes could be felt either in the axilla or in the cervical triangles.[3]

[1] It is interesting to note the frequency with which victims of malignant tumor complain of long-standing rheumatism. I call the attention of my professional readers to this fact, and ask them to observe it in their future cases of malignant disease.

[2] It is much more difficult to detect a tumor in a large, pendulous breast than in a small, flat and shriveled breast. Sit before your patient, whose chest must be widely exposed,

and examine both breasts carefully, rolling them against the chest wall, under your outspread palms, then pick up, and handle carefully every suspicious nodule. Should you find no tumor at first, stand behind your patient as she sits; pass your hands from behind over her shoulders, and then at a great advantage, roll and palpate the breast. Then examine the axilla. Direct the nurse to hold the patient's arm at a right angle, and flexed; pass your outstretched fingers into the axilla high in front, and explore carefully the apex of the axilla, and the pectoral margin; with your hand still pressed up into the axilla, have the patient's arm then brought firmly to her side. This will often bring out and accentuate enlarged nodes, hitherto impalpable.

[3] The nature of breast tumors cannot always be determined by palpation. In general terms, benign tumors are more or less clearly outlined, and are movable; whereas malignant tumors seem to infiltrate surrounding tissues, and to be fixed, but the evidences are not invariable; cystic and fibrous tumors may take on malignant characteristics, and still feel like benign tumors; while at the same time certain chronic inflammatory processes may closely simulate cancer. Remember always that eighty per cent of all breast tumors are malignant, and that a woman's youth gives no assurance of immunity.

I operated on this woman, a few days later, and made a most extensive dissection, removing a wide area of skin down to the lower rib margin, to the sternum, and high into the axilla, together with the pectoral muscles and the axillary contents. This was the largest breast tumor I have ever removed. It weighed in all fourteen pounds. The patient suffered severely from shock, and made a slow convalescence, which was hastened so far as possible by extensive skin grafting. She went home well at the end of three weeks. I felt little hope that the operation would be permanently curative, the long course of the tumor (four years) and the great extent of the tissue involved rendered an operative cure improbable. Six months after the operation, the patient appeared well. She was buoyant, happy and vigorous, and rejoiced that the operation was behind her. A year after the operation, however, she developed symptoms of pulmonary disease, which rapidly extended to the liver and other abdominal organs. She died seventeen months after the operation,

but there was never a recurrence at the site of the original disease.

There are three interesting points in connection with this case: the long continuance of the disease, the great size of the tumor and the fact that no local recurrence took place. Although the patient died of internal cancer, the case gives us a sort of negative encouragement. I feel strongly that the extensive dissection would have saved the woman's life had it been done three years earlier.

Case 15. Miss Mary Farmer, a clerk in a large down-town office, was forty-six years of age when she consulted me on Dec. 30, 1908, by the advice of her physician. She was one of those fretful, teary, middle-aged women, from whom it is extremely difficult to extract a clear story. She told at length of twenty years devoted to the care of bilious headaches, blurring of vision, constipation and insomnia. Five years before I saw her she had been operated upon for gallstones, but no gallstones were found, and her symptoms had not been relieved. Two years after the gallstone operation — that is to say, three years before she consulted me — she began to be troubled by a slight swelling in the left breast, irregular menstruation, and a fullness on the front of the neck.[1] The condition of the breast especially attracted my attention. The patient stated that although this swelling had existed for three years, it had caused no special disturbance, no pain or dragging. She would not have consulted a surgeon had it not been for the insistence of her family physician.

There was much about Miss Farmer to suggest some serious ailment. Though tall and well developed she was emaciated, pale and feeble-looking. She was apprehensive also, and submitted with anxiety to an examination. I found nothing remarkable about the neck, nor were the abdomen and chest peculiar. On examining the left breast, which was somewhat atrophied and easily palpated, I found in the upper and outer quadrant a mass the size of a hen's egg, somewhat movable, semi-fluctuant and not tender. There were no enlarged nodes in the axilla or neck.[2]

[1] Irregular menstruation, blurring of vision and a fullness of the neck immediately suggests the possibility of Graves' disease. One looks for tachycardia, tremor, prominent eyes, lagging lids, and other nervous and digestive disturbances; for tachycardia and tremor especially. In the case of Miss Farmer these signs were absent.

[2] The diagnosis in this case was less evident than at first appears. A movable tumor seems to render improbable malignancy, but we know that tumors for a long time movable may become malignant. One thinks especially of fibro-epithelial tumors, and the five varieties, — periductal fibroma, periductal myxoma, periductal sarcoma, fibro-cystadenoma,

and papillary cystadenoma, the more usual forms of fibrous breast tumors. Of these, any one, especially cystadenomata, may take on malignant characteristics, so that in operating on these tumors, in cases of middle-aged women, one must give a guarded prognosis; and should examine carefully at operation the histological character of the growth, in order to determine the extent of operation necessary. In this particular case, the diagnosis was not altogether obvious. The duration of the disease suggested a chronic non-malignant process, but the constitutional impairment of the patient and her age imposed a careful prognosis, with the thought in mind of possible malignant changes in the tumor.

A week after seeing the patient I operated upon her breast, by means of that exploratory method which we call plastic resection: carrying a crescentic incision half way around the breast on its outer and lower margin, turning the gland over, and so removing the tumor from beneath it. I was then able quickly to determine the nature of the growth, and found it to be a fibro-cystic affair with no evidence of malignancy. The breast was then laid back in its normal position and the wound closed. The patient has remained perfectly well ever since, while the scar beneath the breast is scarcely to be observed.*

* The reader may well compare Case 15 with Case 14. The histories of the two, the ages of the patients, and the character of the symptoms are not dissimilar. One proved to be malignant, and fatal; the other was benign, and the patient easily cured.

Case 16. On the 14th of June, 1910, I was asked by a physician to see a patient who was said to be suffering from an advanced disease of the breast. This patient, Mrs. John Anderson, had been a vigorous woman up to the age of fifty-one, two years before I saw her. For many years she had been a firm believer in Christian Science, and was convinced, with much show of reason, that her faith had saved her from many ills. She was the wife of a dentist, who concurred somewhat reluctantly in his wife's philosophy of life. At the age of fifty-one, then, Mrs. Anderson, when in sound health, first noticed a small lump in her left breast. Quite undismayed she consulted at once a Christian Science healer, who proceeded to exorcise the evil. Mrs. Anderson persisted in this method of treatment for eighteen months, during which time the lump continued to grow, and broke down into a deep and offensive ulcer on the surface of the breast. The patient finally concluded that she must seek further assistance. Instead of consulting a physician, she followed the promptings of a curious mental irrationality, and toured the country, putting herself in the hands of various quacks. At length, in April of 1910, nearly two years after her first knowledge of the disease, she consulted an experienced surgeon in Minnesota, who explained to her the nature of her illness, and its hopelessness.[1] Nothing daunted and still convinced of the efficacy of mental treatment, and the insignificance of her physical being, Mrs. Anderson returned to her home in Boston, where she called in a physician, apparently with the idea that such a person could render her life more tolerable, and herself less of an offense to her family. At this time I saw Mrs. Anderson with a view to some sort of an operation. I found her to be a tall, fine looking and spirited middle-aged woman, dwelling in some sort of an intangible mental atmosphere which I endeavored in vain to penetrate. I am familiar with the vagaries of Christian Scientists, and with the teachings of psychology, but the attitude of this woman embraced neither. So far as I could judge, her beliefs, if I may call them so, were founded on a curious combination of fatalism and sorcery.

On physical examination I discovered a left lung partially

solidified, and an enlarged liver. The left breast was nearly destroyed by a malignant growth, which bore in its center a deep sloughing ulcer about the size of a teacup.

The problem in this case was, What should we do? No radical operation was possible. On the other hand, I felt that something should be done to correct the extreme misery of the patient's condition. She was an offense to all who came near her. The room in which she sat reeked of a foul, gangrenous odor, which she seemed not to notice, while the dressing of her breast was distressing in the highest degree. Accordingly I advised, and helped to carry out, a palliative operation, to convert a filthy sore into a clean, granulating wound. The operative risk in this case was not inconsiderable, for the patient was deeply toxic. Accordingly I avoided using ether, and carried on the anesthesia with nitrous oxide and oxygen, which in these cases lower the patient's resistance less than does ether. With the knife and cautery the sloughing mass was widely removed down to apparently sound tissue. Mrs. Anderson rallied promptly from her operation, and was able to sit up two or three days later. We then instituted the treatment for inoperable cancer, which I have followed at the instance of Dr. G. W. Gay during the past three years.[2] Whether or not this treatment influenced favorably her condition, I cannot say. It is certain, however, that her life was far more tolerable than before the operation. She lived for two months, and died quietly of exhaustion.

[1] It is evident that at this time Mrs. Anderson was far gone with cancer, which, beginning in the breast, had destroyed that organ, and had involved the chest and liver.

[2] This treatment consists in giving five drops of the compound solution of iodine, three times a day, and increasing the dose rapidly, until by the end of a month the patient is receiving from sixty to one hundred drops in the twenty-four hours. Frequently, by the use of this drug, pain is allayed, the rapidity of the tumor's growth seems to be checked, and life is prolonged. It may be necessary to supplement the iodine by minute and frequently repeated doses of opium for a short time.

Case 17. A young boy of fifteen, from one of the state institutions, recently came under my care at the Massachusetts General Hospital. He was sent in as a case of chronic appendicitis, by the institution physician, and he turned out to be an old haunter of hospitals, which he preferred to state institutions. His story so far as we could gather it, ran something like this: Born in poverty and reared in the most forlorn surroundings, he had never until recently received proper food or proper bodily care. From his earliest years he had been indulged occasionally in alcohol, and was an inveterate smoker of scrag tobacco. He had always been subject to stomach ache and to attacks of nausea and vomiting. Food frequently distressed him, his sight was poor, he became easily tired; he had had typhoid fever, scarlet fever, measles, whooping cough, rickets, consumption, spotted fever, and various other ailments. Whenever he went home, his drunken father beat him into insensibility, while worst of all he was the victim of an obstinate chronic constipation, in spite of two years of wholesome life spent at a Poor Farm. Such was the lad's melancholy tale, which was received by the house surgeon with incredulity. On examining this unfortunate youth, I found him to be a vigorous, well-grown boy, rather large for his years; well developed, ruddy, restless, and with the usual shrewd intelligence of a street urchin. There was no evidence about him of any organic or functional disorder. The only *fact* which emerged from his story was that he did actually suffer from an obstinate constipation. I could detect no evidence of a troublesome appendix, while on cross examination his claim of former attacks of appendicitis fell to the ground. Indeed, I could make nothing of the matter except that the boy was doubtless a malingerer, a supposition confirmed by learning that he had been many times in hospitals, and that he had a fancy for an appendicitis operation, which would doubtless lend variety to his life and

keep him in the hospital for several weeks. A few years ago I should have discharged this patient at once, but I have become interested in treating by a simple operation the constipation of young persons. I told the lad that I should not operate upon him for appendicitis, but for constipation. He consented cheerfully. I then etherized him, and thoroughly stretched the sphincter ani muscle. The next day but one, his bowels moved naturally, without enema or cathartic. I kept him a week in the hospital, during which period he had one or two normal daily movements. He regained quickly control of the sphincter. Since that time, I am informed that he has had no more constipation.[1]

[1] The *rationale* of the sphincter stretching is simple enough. Ordinary constipation is a matter of habit, as is well known, unless there be some colon or rectal abnormality, — relatively rare conditions. The average uninstructed young person pays no attention to the condition of his bowels, allows them to become loaded, then exercises unduly both his abdominal muscles and his sphincter in their evacuation, and so in the course of time develops an unnaturally vigorous and close anal ring. If you examine such a sphincter you will find your finger to enter with difficulty, and to be grasped tightly by the muscle. Fecal masses pass with equal difficulty, constipation ensues, and a vicious circle is established. The operation of stretching paralyzes the sphincter for the time being, natural daily movements result, a proper psychic influence is established, and the patient is frequently cured of his constipation.

Case 18. In 1901 Mrs. B. R. Adams had been a victim of gallstones for five years, she told me. She was then thirty-six years old. She had consulted various physicians, and suffered various treatment, but without permanent benefit. She said that her attacks were increasing in frequency. Of a constipated habit in childhood, she had grown dependent on cathartic medicines; her appetite was always small or *nil*. She had frequent headaches, was continually conscious of a weight and dragging in the epigastrium and was occasionally nauseated and "bilious." About once in two months she had an attack of what she called acute gallstone colic, agonizing pain in the epigastrium coming on gradually and lasting from two to twenty-four hours, relieved by morphine only. My examination seemed to justify the conclusion of her previous advisers. She was a large woman, somewhat fat, somewhat lethargic, highly intelligent, and with nothing of consequence in her previous history. Her tongue was slightly furred, and her conjunctivæ slightly yellow, while there was distinct tenderness to be made out in the region of the gall bladder, in the center of the epigastrium, and near the navel.[1] I saw Mrs. Adams a week later in one of her gallstone attacks. It was much as I have described, and I had no hesitation in assuring her that she had a chronic infection of the bile passages, probably gallstones, and that she should have an operation for their removal. Unfortunately for my interest in the case this patient lived in another city. She went home shortly after I saw her, consulted a well-known surgeon there, and was operated upon as I had advised. The operator explored the gall bladder, ducts and duodenum, and found them to all appearances normal; no stones, no evidence of infection. He drained the gall bladder for a few days, however, and the patient after recovery was relieved of her symptoms for many months.[2]

[1] Tenderness near the navel, that is, on a line between the navel and the gall bladder (ninth costal margin) about one inch from the navel is strongly indicative of past or present gall-bladder disease. Pressure at this point frequently elicits a sense of pain or discomfort in the gall-bladder region; and is due doubtless to the resultant slight stretching of the round

ligament of the liver, and the pulling upon delicate adhesions in the upper part of the abdomen, "the cobwebs in the attic of the abdomen" of R. T. Morris.

[2] We know that gallstones are due to an infection of the ducts and gall bladder. We believe that much of the pain of bile-duct disease is due to obstruction of the ducts through swelling and mucous secretion, and is not necessarily due to the presence or passage of gallstones. In operating on the gall bladder, therefore, experience teaches us to drain the gall bladder and ducts for many days — twelve days to three weeks — in order to subdue the inflammation which is frequently present. When the inflammation has subsided, remove the drain. The drainage sinus will then close in a few hours, in marked contrast to the long-delayed closure of a sinus drained for a few days only, and commonly with ducts still infected.

My patient was comfortable and in good health for a year after her operation. She then began to have recurring pains in the old region, pains aggravated especially by the eating of meat. At that time I had her see an internist, who assured her that her pain was due to periodic attacks of pyloric spasm. She had then a marked hyperchlorhydria, accounted a common cause of painful pyloric spasm. In order to overcome the acidity and spasm, my consultant gave Mrs. Adams a long course of bicarbonate of soda, and subcarbonate of bismuth in large doses, half an hour before meals. She was greatly helped by this treatment, and was comparatively well for more than two years, when she became less careful about taking her medicine, which at the same time seemed to have lost something of its efficacy. Attacks of pain then began to recur, with loss of appetite and general debility; her outlook seemed uncertain and distressing. At that time she happened to be visiting in the country, and came under the care of an extremely competent general practitioner, an old friend of my own. This physician gave her a most thorough and careful examination. He found the old hyperchlorhydria to be present in force, and the old tenderness in the epigastrium; at the same time the constipation was very marked, and to this he turned his attention especially. He made a careful pelvic examination, and found the sphincter ani to be very tight, and in a condition of tonic spasm. Immediately

he concluded that this last symptom was a most important feature in the case. He urged me to operate at once by dilating the sphincter, and explained his hopes of a cure, somewhat as follows: A sphincter in tonic spasm causes chronic constipation; chronic constipation results in auto-intoxication; auto-intoxication interferes with many of the normal functions of the body, especially with the functions of the secreting glands; a hyperemia of the abdominal organs frequently results; incidentally we find gastric hyperchlorhydria; this causes pyloric spasm and pain. By the use of antacids we attack this disease from the wrong end. They are palliatives only. Cure the constipation and you will cure the pain. I accepted so much of this train of reasoning as to operate for the cure of the constipation. That was three years ago.

Immediately there was an improvement in the condition of the bowels, and in the course of a week all cathartics and injections were abandoned. Since that time, the bowels have acted normally. The epigastric pain was not relieved with equal promptness, but the attacks decreased in frequency and severity, until by the end of six months she realized that she was well. For more than two years, now, she has remained well.

Case 19. Priscilla Marshall was twenty-nine years old when she came to consult me on the 29th of March, 1908. She was an unhappy-looking young woman, unmarried, and a clerk in a railway office. She boasted complacently of having been well up to the time of taking up work, four years before. Since she had been busy as a wage-earner, however, her health had gradually failed, and she had the usual dreary tale to tell, which we hear from women worn out with long hours of exacting office work, hot rooms, and improper food. It was difficult to get at her story, so many were the items which she pushed to the front; catamenia painful throughout, irregularity of the bowels, scalding micturition, occasional mucous colitis, inevitable distress immediately after food, occasionally severe pain in the region of the appendix, morning frontal headache, lack of appetite, blurring of vision, occasional nausea after food.[1] Miss Marshall was a slight, nervous young woman, of apprehensive and somewhat sullen bearing; much the sort of person one guesses might readily be influenced for her good by the ministrations of Christian Science. A careful physical examination proved disappointing. The eyes were normal, the thyroid not enlarged, the pulse was 80, and there was no tachycardia. The tongue was furred, there was excess of gastric hydrochloric acid, there was some ptosis of the abdominal organs, and a markedly displaced right kidney. All parts of the abdomen were tender, especially over the appendix and the ovarian regions. The uterus was slightly retroverted and the anal sphincter tight.[2] At first I was minded to send the patient off to a general practitioner, as her ailment did not seem to be surgical. However, in order to save her time and trouble, I gave her one piece of advice which was most important. I recommended to her a quiet country place for three weeks of rest and good food. At the end of her vacation, she returned feeling much better, though the constipation persisted, and the anal sphincter was as tight as ever. Next day I gave her nitrous oxide anesthesia, and stretched the sphincter. In three days she went back to her work with her constipation apparently cured. It has remained cured ever since, and with proper regard to sleep, food, exercise and Sunday holidays she herself has continued well.

[1] The train of symptoms described, and the type of patient, are familiar to every practitioner. While every one of these symptoms is suggestive and appeals to various specialists according as their inclinations prompt, the widely experienced physician will see that the condition is due to the general lack of tone of the whole organism. One man will look for and will find a ptosis of the abdominal organs, due to congenitally long visceral attachments weakened by lack of exercise and a confining occupation; another man will find a chronic hyperchlorhydria with a descent of the stomach and some pyloric obstruction; another will center his attention on the nervous phenomena, especially on the mucous colitis; another will think first of thyroid disease; while others will consider some kidney disturbance or some permanent change in the eyes; and the active surgeon will put his finger at once on McBurney's point, and call for a removal of the appendix.

[2] This collection of findings coincides closely with the symptoms which the patient described. The undoubted ptosis was especially conspicuous, but doubtless many persons have an equal degree of ptosis without symptoms.

Case 20. John Strong was thirty-nine years old when he consulted me in May, 1908. He was a slight, athletic man, weighing one hundred and thirty pounds, and had had a devious history. At the age of twenty he contracted syphilis,[1] but had long regarded himself as cured. This misfortune befell him when he was a young clerk in a banking house, and he had remained a clerk ever since. At the age of twenty-five his appendix was removed in the middle of an acute attack of appendicitis. There resulted a ventral hernia, occasional pain in the scar, and an obstinate chronic constipation.[2] At the age of thirty he had a severe typhoid fever, which left him debilitated for a long time. For many years he had suffered from chronic sore throat with enlargement of the tonsils on the slightest provocation. For five years, at least, he had been much troubled with severe frontal headaches, increasing now in frequency and acuteness. The year before I saw him he had suffered from a violent attack of " indigestion " with jaundice, and severe epigastric pain lasting on and off for one month.[3] This pain had recurred three times during the previous year, and for this he consulted me. He married at the age of twenty-eight, and had six healthy children.

In view of the patient's history, I approached a physical examination with much uncertainty. Bearing in mind the malign influence of an old syphilis, I could not exclude the possibility of the common syphiloma of the brain, though absence of characteristic vomiting and of disturbance of the eyes rendered improbable such a brain disease. There were no signs of disturbance in the chest, and the abdomen itself gave a negative answer to my questions. The size, position, and activity of the stomach were not peculiar; the liver was not enlarged, nor was there any tenderness in the region above the navel; no masses were to be felt, or other evidence of tumors, enlarged nodes or matting of viscera. I was obliged, therefore, to assume that the jaundice was a catarrhal jaundice and the pain due to the passage of very small stones or of mucous plugs,— this in spite of the fact of a previous typhoid fever. There remained the lower portion of the abdomen: This was in no way peculiar, except for the appendix scar. Deep palpation elicited no tenderness, nor was anything

abnormal to be felt. The much-talked-of appendix scar was small; there was no hernia there, but a slight bulging of the rectus muscle, which was prominent when the man stood upright. I examined his rectum and sigmoid. The proctoscope entered with difficulty, but discovered nothing wrong. The sphincter muscle was very tight, and the patient admitted having an obstinate constipation, due to frequent neglect of his bowels;—and normal comfort only after the use of laxatives for several days. The problem in Mr. Strong's case seemed to be complex; the great saving element in the situation being that in spite of many complaints and diverse symptoms he appeared to be in excellent general health. Furthermore he was apparently a case for an internist. The one condition about him which seemed easy of remedy was the tight sphincter, a probable cause of his constipation. Accordingly I stretched thoroughly the sphincter, ordered a coarse, laxative diet, without cathartics, and directed the patient to report to me in three weeks. At the end of that time he proclaimed himself cured. I believe he has remained cured. Certain it is that occasionally when I see him he assures me that he has no more headache, jaundice, stomach ache or constipation.

[1] The instance of an old syphilis suggests strongly that specific infection as the underlying cause of many of his symptoms, especially headache and the irritation of the throat. On the other hand, an examination of the man's eyes, especially of the fundi, showed no abnormalities. There was no Wassermann reaction.

[2] The appendix operations of fifteen years ago were very serious affairs, and not infrequently to-day we see patients then operated upon, with grave resulting disabilities. Fifteen years ago, surgeons were accustomed to open very widely the abdomen through the oblique muscles, to wash out or wipe out the cavity, to employ multiple gauze drains extending in all directions, and to allow the whole wound to heal without the support of stitches. Subsequent herniæ were common, extensive matting of the intestines frequently occurred, and constipation or actual intestinal obstruction often resulted.

[3] Symptoms pointing to disease of the stomach and bile passages may follow such an experience with the appendix

as I have described. Extensive adhesions from an infection low in the abdomen may cripple, kink or at any time even occlude the bile ducts. Adhesions may drag upon and disturb the normal relations of the gall bladder, stomach, duodenum and colon.

DYSPEPSIA.

Case 21. On the 19th of June, 1908, I was asked by a physician to see a woman, the victim of a long-standing dyspepsia. This patient was a large, robust person, forty-three years of age, who told the following story: She had been perfectly well up to the age of twenty-three, when she began to notice occasionally a sense of oppression after eating. This experience was more or less periodic, coming on at first about once in every two weeks. She thought little of it for some two or three years, although the frequency of the attacks and their nature varied. At the end of three years the attacks came on every two or three days and were of an almost uniform character. About two hours after eating, no matter what the diet, she felt oppressed, rather short of breath, was flatulent, and experienced a gnawing, or occasionally a knife-like, pain in the epigastrium. This pain lasted almost without intermission until the next meal. She described it as a hunger pain, which was promptly relieved by taking food. At that time such taking of food would relieve the pain often for several days, always for two or three days, after which a similar attack would recur.[1] At the age of thirty, this patient, Mrs. Winchester, was severely ill with typhoid fever. During her illness the attacks of dyspepsia were less pronounced, but upon her convalescence and thereafter the attacks became more frequent and more severe, but were always associated with taking food and always came some hours after meals.

In spite of this chronic disability, Mrs. Winchester continued in apparent good health, married, bore three children, and though regarding herself as a chronic dyspeptic, took a cheerful view of life in general. At the instance of her husband, she saw a number of competent physicians, and had many routine examinations made of the stomach contents. The report brought to me was that the motility of the stomach was normal, that organ emptying itself completely of a full meal in from ten to twelve hours; the acid content of the stom-

ach was not far from normal and there was no increase of hydrochloric acid. This lack of increase in hydrochloric acid was constantly doubted by the patient, and her skepticism seemed to her justified by the fact that several hours after food she had come to experience a burning regurgitation in the throat, with highly acid characteristic taste in the mouth, the familiar taste of gastric contents.[2]

During the last two years her misery had greatly increased. She suffered frequently from blurring of vision, from obstinate frontal headaches, from chronic constipation, from emaciation and general malaise. For such reasons she again consulted her physician.

My physical examination of Mrs. Winchester was interesting, and the findings were characteristic. She was a large, well-developed woman, somewhat emaciated and with a tired aspect. The sum total of interest in her physical condition was centered in her abdomen, which was everywhere slightly tender, but there was marked tenderness in the median line, about the middle of the epigastrium, where pressure caused her to shrink anxiously. Deep pressure occasionally elicited a pain which, starting under the fingers, was described as darting through to the back. The stomach was not materially enlarged, though it was slightly prolapsed. The analysis of the gastric content showed a delayed motility; that is, the stomach emptied itself of a full meal in about fourteen hours. A trace of blood in the stools was discovered by the guaiac test. The analysis of the stomach content in the main differed little from the normal.[3]

A lifelong obstinate dyspepsia, associated with pain, nearly always means some permanent organic derangement. In this case I made the diagnosis of duodenal ulcer, and advised an operation.

[1] Pain depending on food, and coming on from two to four hours after taking food is suggestive of some disturbance beyond or at the pylorus. This type of pain has long been recognized and has commonly been regarded as due to pyloric spasm — spasm of the irritated pylorus at the time of the passage of food through it, two or more hours after eating. Such pain is traditionally treated by giving alkalies before

eating, in order to neutralize the acidity of the gastric contents.

[2] Patients generally make their own diagnosis of acid dyspepsia from the fact that they regurgitate hydrochloric acid, which scalds the pharynx and " sets the teeth on edge," as they say. Undoubtedly such are the effects of the regurgitated gastric contents, but the same effects exactly are produced by regurgitated contents of the normal stomach. Excess of hydrochloric acid cannot be detected by the patient himself, but must be determined by careful chemical measurements.

[3] These findings are suggestive of various pathologic conditions referred especially to the stomach, to the duodenum, or to the bile passages, but lack of peculiarity in the gastric analysis, absence of characteristic attacks of gallstone colic and the presence of pain coming on regularly two hours after taking food, eliminate practically the question of disease of the stomach or of the bile passages. It is to the history in this case that we must turn for help, and the history is absolutely characteristic; the history is that of duodenal ulcer,— a long-continued dyspepsia, characterized by distress and pain two to four hours after taking food, a normal acid content of the stomach and a trace of blood in the stools. The classical signs of duodenal ulcer,— profuse hemorrhage and perforation, with overwhelming pain, are late complications, for which we should not wait.

Three days later I operated. On opening down to the duodenum I found it rather extensively involved in adhesions to the stomach and liver. These were separated with some difficulty, when a broad, firm ulcer was discovered on the anterior surface of the duodenum, about half an inch below the pyloric vein, which marks the beginning of the duodenum. The ulcer was the size of a fifty-cent piece, with a crater in its center, which could be demonstrated easily by the finger inverting the intestine from the side opposite the ulcer. I performed gastro-enterostomy [4] for proper stomach drainage, but realizing that the partial pyloric obstruction which existed might recur at a later period, I excised the ulcer, together with the portion of the gut in which it was situated and closed permanently the pylorus. The patient made an excellent recovery and has been in good health for the past eighteen months.

[4] In the case of operating by gastroenterostomy for duodenal ulcer which causes a partial pyloric obstruction, one should look to the natural history of the case after the artificial stoma is established. The artificial stoma drains the stomach for the first weeks of convalescence, the ulcer commonly heals, the resulting duodenal and pyloric cicatrix gradually softens, gastric contents begin to pass again by the pyloric outlet, and their presence again commonly irritates the site of the old ulcer, so that in many cases a new ulcer develops, when the state of the patient is worse than at first.

Case 22. On the 10th of December, 1908, a lady of fifty consulted me, with the statement that her physician had sent her to me for an operation on the shoulder. She was afflicted with a small lipoma on the front of the deltoid.

In relating this case I am reminded of an experience of Moynihan, who tells how a man came into his office asking to be operated upon for hernia. The man's color was so bad and he had an anemia so pronounced that Moynihan immediately suspected some form of internal hemorrhage, and his suspicion was verified by subsequent investigation.

My patient also impressed me as being the victim of some form of hemorrhage. As she entered my office my first impression was that she was a tall, well set-up, but somewhat emaciated woman. I immediately recognized further some considerable degree of anemia. When she described and exhibited her fatty tumor I was prompted to disregard it for the moment and to ask her further about her general health. She said that she had been losing blood occasionally, in small amounts, from a troublesome hemorrhoid. This proved to be a slight matter, and certainly did not account for the degree of anemia which she presented. Her past history was not uninteresting. She had been married some thirty years, and was the mother of four children. Up to the age of thirty she was sound and active. At that time she had a long struggle with a disordered set of teeth, which were irregular, misshapen and soft, given easily to decay. As a result she found great difficulty in chewing her food, and for some years was in the habit practically of bolting all solid food. Consequently, at about the age of thirty-two, she began to be troubled with an obstinate chronic dyspepsia, punctuated especially by a heavy feeling in the epigastrium, by chronic constipation, by occasional " bilious attacks " and by frequent headaches. She had been the rounds of the specialists. Her eyes had been overhauled; the neurologists had dismissed her; the internists had told her that her stomach was not at fault; and the surgeons had found nothing in her abdomen calling for operation. From time to time she had been greatly improved by courses of Carlsbad salts and copious dosing with bicarbonate of soda; lavage of the stomach also relieved her a great deal. When

about forty years of age her misery was increased by occasional attacks of pain in the right side of the epigastrium, pain extending frequently into the hypochondrium and along the border of the ribs. At that time she was thought to have a chronic appendicitis, and her appendix — not materially damaged — was removed. This did not help her. It was said that at the time of the operation nothing wrong could be found in the region of the bile passages and stomach. Shortly after this operation, while her former symptoms continued unabated, she began to observe a new symptom,— definite, daily recurring attacks of distress and actual pain in the epigastrium about three hours after taking food. Although these attacks were recurring and were definite, they were never severe, and always passed off with the succeeding meal. She had been told that she had an excess of acid in the stomach, and for the correction of this she was advised constantly to take bicarbonate of soda before meals. Such dosage with bicarbonate of soda certainly relieved her, and when such relief was long delayed she was accustomed to wash out her own stomach, which promptly checked her bad symptoms. Had she had bleeding from the rectum? I asked. Yes, frequently; slight bleeding from a hemorrhoid after movements of the bowels; no other obvious blood, though frequently, sometimes daily, the movements of the bowels would be dark colored, almost black, a condition she supposed due to the medicine she took, for she had long been in the habit of taking courses of iron on account of her anemia.[1]

[1] Here is an extremely interesting train of symptoms, which suggest again a variety of disorders,— gastric ulcer, duodenal ulcer, gallstone disease, appendicitis, some rectal disturbance, polypi or hemorrhoids, and the frequently associated ptosis of the intestines. Gastric ulcer rarely, if ever, causes bleeding into the intestine sufficient to color the stools; the pain of gastric ulcer follows immediately after taking food. Duodenal ulcer may give rise to constant slight hemorrhage, sufficient to color the stools black, while the pain of duodenal ulcer follows two to four hours after taking food. Gallstone disease in no way modifies the character of the stools, except to leave them clay colored in the case of an obstructed common duct; the pain of gallstone disease is severe

but infrequent, and bears little or no relation to food. Appendicitis influences the bowels in no way, except to encourage constipation, but the pain of appendicitis may simulate the pain of almost any other diseased abdominal organ. Disease of the rectum is associated with constipation, and if accompanied by bleeding that bleeding appears as fresh blood in the stools; rectal disease is rarely associated with epigastric pain.

I made a diagnosis of bleeding duodenal ulcer, founding my belief on the periodicity of the attacks of pain, their occurrence three hours after taking food, and the presence of blood in the stools, which was proved abundantly by microscopic examination and by the guaiac test.

At operation I discovered an old ulcer, situated mainly on the posterior surface of the duodenum and about as large as a silver half-dollar. It did not constrict particularly the lumen of the gut. It had wide indurated edges,[2] with a terraced interior and a large surface of granulations, among which was one small venule which seemed constantly to be oozing blood. I resected that portion of the gut, closed the pylorus and completed the operation by gastro-enterostomy.[3]

The patient made a tedious recovery, owing probably to her long-standing anemia, but she is now greatly improved, and, though still somewhat anemic, regards herself as well.

[2] In connection with the healing of duodenal ulcers, surgeons have discussed the possibility of malignant disease developing on the site of such ulcers. Malignant disease rarely develops from ulcer of the duodenum; it develops commonly from ulcer of the pyloric area of the stomach; but in the great statistics of Mayo and of Moynihan cancer developing upon duodenal ulcer has been found in between two and three per cent only of the cases.

[3] These cases of chronic duodenal ulcer are not common in women; the usual victims are men. The reason is not obvious.

Case 23. John Conover, an active commercial traveler of Orange, N. J., consulted me on the 19th of November, 1909. He was thirty-nine years old and a hard drinker. He smoked twenty cigarettes a day and half a dozen cigars. He limited his drinking to the evening, and complained that his night's sleep was often disturbed in consequence of such limitation. Two bibulous companions who brought him to me shook their heads solemnly over his sad condition. Mr. Conover was the dyspeptic hero of their little coterie. There were gloomy whisperings of the "water wagon." Out of a tangled mass of gossip, assertion and contradiction, in which the three friends assisted each other, I drew the following tale:

Mr. Conover had begun his alcoholic career at the age of seventeen, when he was an office boy. As he rose in the ranks he became a valued salesman on the road, and for many years had drawn a good salary. At the age of twenty-five he contracted syphilis, but now regarded himself as long cured. He had never married. At the age of thirty, that is, about nine years before his visit to me, he developed rapidly what Moynihan has taught us to look upon as the fundamental symptom of duodenal ulcer,— distress, fullness and pain two or three hours after taking food. This symptom in Mr. Conover's case was characteristic, was pronounced, and had visited him after nearly every meal for five or six years. He claimed that for a long time it was relieved by drinking straight whiskey,— doubtless a fact. Self-induced vomiting also relieved him, and the copious drinking of soda water in the morning. Nevertheless, the pains recurred. He was frequently subject to belchings and eructations of the stomach's contents, always very bitter. He thought that he had an acid stomach, due to lack of exercise and to improper food. Six months before I saw him he experienced a sudden prostrating pain in the epigastrium, which sent him to the hospital where a diagnosis of bleeding duodenal ulcer was made. At that time he had both vomited blood and passed blood, but not in large amounts. His condition at the time of his visit to me was much as it had been before the perforation, and that condition was deplorable.[1]

I sent this man to the hospital at once, with the purpose

of keeping him there for a couple of days and then operating. That very night, as he lay in the hospital, his ulcer perforated. He was seized with the classical symptoms,— agonizing prostrating pain, intense rigidity, a subnormal temperature, a pulse at first undisturbed, later rising with the temperature, becoming soft, compressible and rapid, while the fever reached 103° Fahrenheit. I was called and operated at once. I found the belly full of liquid food and exudate, collected mainly in the right iliac fossa and in the pelvis. The ulcer was upon the anterior surface of the duodenum, and was about the size of a fifty-cent piece. The opening in the ulcer would admit an instrument the size of a slate pencil.

I infolded [2] and closed the wound in the duodenum, washed out the belly, closed the epigastric wound and inserted a drain above the pubes, reaching down to the bottom of the pelvis. I conducted the after-treatment on the principle instituted by Murphy, placing the patient in the semi-upright position and introducing a continuous trickling stream of salt solution into the rectum. I was surprised and gratified with the result.

After a stormy week, in which he was threatened with delirium tremens, the patient rallied, the diffuse peritonitis subsided, the wound healed, and he left the hospital a chastened man at the end of three weeks. He reformed his habits and is now relatively well.

[1] Hemorrhage and perforation are late complications of duodenal ulcer, as I have said. The physician and the surgeon should never wait for their development. In the words of Moynihan: "Of nothing concerned with the relationship between altered structure and altered function am I so convinced as that symptoms such as I have portrayed [the early symptoms of distress some hours after eating] owe their origin to and are dependent for their periodic repetition upon a chronic duodenal ulcer. A description of these symptoms is to be met with in most of the text-books of medicine under the caption of 'hyperchlorhydria' or 'acid gastritis,' and the belief that these words are a sufficient diagnosis is very general. After giving a diagnosis of duodenal ulcer, I am not infrequently met with the objection that the patient's symptoms are indications of nothing more than persistent hyperchlor-

hydria. This is the medical term for the surgical condition duodenal ulcer. The symptoms of acid dyspepsia, if they are intractable and recurrent, are due to the demonstrable lesion duodenal ulcer."

[2] The treatment of acutely perforating ulcer is much in debate,— whether to infold the ulcer merely, or to perform gastro-enterostomy at the same time. My experience leads me to believe that gastro-enterostomy, if performed at all, had best be deferred for a few weeks or months, that the ulcer may have a chance to heal and that the patient's subsequent condition may be studied. The mere infolding of the ulcer suffices in a great many cases. If, however, subsequent symptoms develop, and it becomes clear that a cure is not established, then a secondary gastro-enterostomy may usually be performed with safety and success. If, however, the infolding of the ulcer, as occasionally happens, involves an almost complete closure of the duodenum, gastro-enterostomy must be performed as a primary operation, should the patient's condition permit.

Case 24. Mrs. Lufkin, the wife of a naval officer, consulted me on the 29th of April, 1908. She had come to Boston to seek the help of the Emmanuel health class, but was advised after reaching here that she might better consult a physician. She was a woman of thirty-one, who appeared much younger than her age. She was vigorous, handsome, intelligent and quick-witted, given to introspection, and with a long history. Before her marriage, even, this lady had suffered from numerous ailments, which she described as excruciating. She had had extremely painful menstruation as a girl, and regarded herself as a pronounced dyspeptic at the age of twenty, when she married. Since that time her symptoms had persisted and she had fallen upon various other ailments,—flatulence and pain after taking food; chronic constipation of a most distressing character; frequent headaches and blurring of vision; while within the last two years she had developed a persistent, nagging cough, which awoke her at night, and for which no relief was forthcoming. The birth and care of her baby, seven years before I saw her, had made no particular impression upon her health. She told me casually that she had received the usual perineal tear in child-birth, but that this was repaired a year later and had not troubled her since. Four years before I saw her a surgeon opened her abdomen with the idea of removing gallstones. He found no gallstones and therefore removed her left ovary, without any special reason, so far as Mrs. Lufkin was aware. At the same time, she stated, he had proposed hysterectomy, as her uterus was said to be studded with small myomatous growths. She thought that such a uterine affliction was probable, inasmuch as she never had been pregnant since the birth of her only child.

This congeries of symptoms suggests, in the first place, that much abused word " neurasthenia," and a state of mental and nervous instability; but on studying the physical condition of the woman one felt that there might well be some anatomical

cause behind her misery. Her throat and chest were not abnormal, her eyes were sound, her abdomen was not peculiar; there was no visceral ptosis; there were no tender spots, even over the appendix; and, most important of all, from the point of view of etiology, her previous operation had left no permanent impression on her mind.

My examination of the pelvis revealed a definite derangement. There was a wide tear of the perineum down to the sphincter ani muscle; there was a slight cystocele, a marked rectocele, a pronounced endometritis, with considerable leucorrhea, and the uterus was retrocessed, enlarged to the size of a man's closed fist and studded with numerous small growths, presumably myomata.

The problem which this case presented to the surgeon was not so simple as at first it had appeared. One says at once that the obvious indications were to repair the perineum and to remove the uterus, but we should remember that this uterus was not causing any considerable trouble; there were no catamenial disturbances or unusual flowings, in spite of the fact that all presumptive evidence assured us that the myomata had existed for four, five or more years. Moreover, the patient was most anxious to have children, and shrank from the thought of hysterectomy.

I operated conservatively, therefore, repairing broadly the perineum by a flap-splitting operation, which allows the surgeon to bring together strongly the torn levator ani muscle and sustains the sagging bladder and rectum. I then opened the abdomen from above, drew up the uterus and removed from beneath its serous surface some seven small myomata, varying in size from a peanut to an English walnut. The removal of these little growths reduced the uterus to about its normal size. I suspended it by drawing the round ligaments over the exposed recti muscles and stitching them together in the middle line. I removed also an adherent and twisted appendix.

Mrs. Lufkin made an excellent convalescence; her various nervous symptoms were greatly benefited by the operation and a three weeks' rest in bed. On June 19, six weeks after the operation, she reported to me as " free from all

symptoms and feeling extremely well." Shortly afterward she went West, and I did not hear from her again until July, 1910, when she wrote to me that she was in San Francisco, about to go to New York, and that she was three months pregnant. A month later I received from her in New York a harrowing letter, describing her mischances on that railway journey. Two days after leaving San Francisco she was taken in labor and had a miscarriage on the train. Eventually she arrived in New York somewhat depressed in spirits but apparently in sound physical health and hopeful for the future.

Case 25. There is a strong temptation for a physician who has long been socially acquainted with a particular individual, to assume that he knows more of that individual's general health than actual experience justifies. This temptation is illustrated by the case of Mrs. Street, who consulted me on the 15th of October, 1908. She was forty-five years old, and I had known her as a neighbor and had seen her almost daily, for some fifteen years. During that period, and at the age of thirty-three, she married and bore two children. She was a bright, active, intelligent woman, who told me on the occasion of her consultation that she never had been ill except in connection with child-bearing. When her first baby was born her perineum was badly torn, and was repaired secondarily some ten years before I saw her. She believed that at the same time a repair of the cervix was made. As a result of her child-bearing, though as she believed as a result of her operation, she had suffered from increasingly poor health during the past five years. There was constant " distress " low in the back, while her menstrual periods occurred every five weeks only, instead of every four weeks as formerly; her endurance also was diminished; and she stated that her physician said there was a tumor of the uterus which should be removed. On the other hand, her appetite was good, and she said that all her functions, except those mentioned, were normal.

Mrs. Street appeared to be a middle-aged woman in vigorous health, plump, ruddy and spirited. She was extremely intelligent, and submitted to a discussion of her case without imparting to me any unnecessary information.

On examining the perineum I found it extensively torn to the sphincter ani, the uterus to be in a condition of retrocession and to be slightly enlarged. Evidently a repair of the cervix had been made, but this repair could not have been successful, for the cervix was widely torn and was bridged across the center of the os by a strip of tough scar tissue. The cervix was greatly thickened, also, and suggested the possible presence of a beginning malignant disease.

I regarded Mrs. Street as an extremely good surgical risk, and advised an amputation of the cervix, a suspension of the

uterus and a repair of the perineum. She entered the hospital on the 10th of November for the operation, and on the day of her entrance appeared fatigued and unhappy. She said she did not feel very well, but I could find nothing materially wrong with her after a careful physical examination; her temperature was normal; her pulse 70; there was nothing abnormal to be discovered in the chest or throat, and an abdominal examination was negative. I assumed, therefore, that her feeling of weakness and discomfort was probably due to her anxiety about the operation.

She was carefully anesthetized by a special expert, who gave her nitrous oxide followed by ether. I examined the cervix, which, on trimming off the bridge of scar tissue over the os, showed some "erosions" only; accordingly I refrained from amputating it, but repaired it carefully. I repaired the perineum also, a tedious matter, but of no special difficulty. On opening the abdomen I discovered that the main cause for the patient's discomfort was a mass of adhesions around an old chronically inflamed right tube and ovary. These adhesions were not dense and did not fix firmly the organs, which accounted probably for the fact of my not having discovered them before the operation. I removed the obliterated tube and the disorganized ovary, and took out the adjacent appendix. The operation was completed by suspending the uterus, and the pelvis was left clean and dry.[1]

Mrs. Street rallied slowly from the operation, and appeared to be in unusual discomfort that afternoon. Her evening temperature was 100°, her pulse soft and rapid, registering 110 at four o'clock. She passed a wretched night, without fall of temperature, her morning record being: temperature 100° and pulse 112; while towards the evening of that day her temperature reached 102°. At this time I examined her carefully and found bronchial breathing at the apex of the right lung. The abdomen was flat and there was no particular tenderness or discomfort about the wounds. She continued to fail during that night, her morning temperature the third day being 102°, while a consolidation of the lung from a pronounced pneumonia had developed. She responded properly to free catharsis and the abdomen was flat and in good condition.

Towards night on the third day she sank rapidly, and in the evening her temperature reached 104°, with pulse 150 and respiration 40. She died at eight o'clock.[2]

[1] I long ago ceased to regard these operations as the trifling affairs which we once thought them. Repair of the perineum plus abdominal section and the removal of diseased tubes is a serious matter. Many women react badly after this operation, perhaps because long ill-health has reduced their resisting powers. Subsequent sepsis is not unknown, even after the greatest care on the part of the operator; and on more than one occasion I have seen pneumonia follow the operation. I need scarcely remind the experienced reader, moreover, that this digging out of adhesions from the pelvis is frequently followed by slow oozing and occasionally by secondary hemorrhage. In the course of the last twenty years I have myself lost two patients from hemorrhage of the ovarian artery, the ligature having slipped off the stump. Doubtless every surgeon can recall a similar experience.

[2] Such a surgical calamity as I have described, while it puts a man on his mettle, suggests a number of complications which he might have met and a number of measures which he might have taken. In the case of Mrs. Street there was no reason to suspect any pulmonary disturbance; indeed, I examined her lungs before the operation and found nothing wrong. It has long been my habit to provide against a so-called ether pneumonia by thoroughly disinfecting the nose and throat with albolene and by sending patients to the operating room clad in a warm "ether jacket"; nevertheless, I feel more and more certain, as I give closer attention to the subject of anesthesia, that ether is a decided depressant of the vital forces. Two years ago I was not following my present routine of carrying suitable patients through the operation with nitrous oxide and oxygen only. I believe to-day that the use of that anesthetic would have been wise in the case of Mrs. Street. Every case of ether pneumonia teaches its lesson, and while the condition is rare, it is well for the surgeon and the general practitioner to bear it in mind as one of the shocking and possible outcomes of an operation ordinarily viewed with equanimity.

Case 26. Some two years ago there came into my office at the end of a tiresome day a tall, stout, red-faced woman, who announced vigorously that her name was Mrs. Grand, that she was fifty-seven years old and that she had no family physician. I thoughtlessly asked her one of my favorite questions, "What is your problem?" She replied, "*I* am *your* problem." The conversation thus auspiciously begun continued through a half hour of intricate navigating, and I am not sure to this day whether or not I sounded the bottom of her difficulty. She was a person averse to communication and suspicious of cross-examination. She preserved throughout our interview an attitude of cold reserve, while she exercised her critical faculty by demanding the exact definition of every term I used. At length, after wallowing in a sea of misunderstanding, I emerged with certain facts more or less clearly determined.[1]

I gathered from Mrs. Grand that she had suffered through life from various minor troubles, — from a supine and unsuccessful husband; from an ungrateful daughter; from chronic constipation; from a suspicious temper; from measles, whooping cough and scarlatina in childhood; from an uncongenial boarding-school and from chronic dyspepsia. At the age of twenty-one she married, and subsequently produced four children, at intervals of two and three years, her youngest child being twenty-four years of age at this time. During the period of her child-bearing she was actively concerned with many interests outside of the nursery; in questions of woman suffrage, and in women's clubs especially; in all of which she received little or no support from her husband. As a result she assured me that her life was made extremely hard and her previous condition of ill-health aggravated. Her four labors were difficult, all of them being assisted by forceps. The children were large and healthy, however, and had grown up with little help from physicians. At the age of forty she suffered from a long attack of typhoid fever, from which she was nearly two years in convalescing. At forty-eight she passed the menopause, and from that time she dated her present illness, which indeed appeared to be but an exaggeration of previous discomforts.

I summed up her condition and symptoms as follows: Dull contempt for the opinions of other persons; a harsh, irascible temper; a desire to dominate every situation; general abdominal pain and distress after all food except liquids; frequent sub-occipital headaches; occasional slight loss of blood from the bowel, and chronic constipation.[2]

[1] I have been at some pains to describe this interview because it illustrates the occasional difficulties which are encountered in arriving at a patient's history. There are two exasperating types of professional interviews; one is that in which the patient pours out a flood of uncorrelated information which has little or no bearing on her case; the other is that more rare one in which the patient assumes an attitude of distrust and reserve, acknowledging symptoms with a question and leaving the surgeon to infer that, after all, he may be mistaken in his conclusions.

[2] The examiner must not be misled by peculiarities of manner and temperament. Remember that numerous extrinsic and psychic causes may lead to such peculiarities. There can be no doubt of the truth which lay in the old notion that " chronic dyspepsia " is a cause of chronic irritability. This woman's mental attitude was so peculiar that, while I was unable to make a diagnosis of positive mental disorder, I felt convinced that some physical disturbance must underlie her moods.

Somewhat to my surprise, a physical examination was not refused, and, again to my surprise, this revealed a positive disorder of which I had little suspected the extent. The eyes, throat, nose and chest were negative; the abdomen, while tender in the region of the appendix, was in no other way peculiar; but on examining the pelvis I discovered a widely torn perineum, a rectocele and a descent of the uterus, which projected well between the vulva and carried with it almost the whole of the bladder. The unhappy woman had allowed me to cross-question her for half an hour to no purpose, while bearing with her this distressing and exaggerated lesion.

It is needless to describe the nature of the treatment instituted further than to state that I repaired carefully the perineum and hung up the uterus, after splitting it in the manner first proposed by Crile.

The pelvic disability was completely cured, and the train of symptoms to which the patient had actually confessed was also much modified; her chronic dyspepsia was greatly improved, especially her headaches were banished; and one of her daughters confided to me later that her mother's temper and disposition were much changed for the better.

Case 27. On the 15th of June, 1905, while Mr. F. H. Fox, of Philadelphia, was motoring in the neighborhood of Boston, with a company of cheerful companions, about midnight his car, running at a high rate of speed, suddenly left the road and "turned turtle." Mr. Fox was thrown out violently and landed on his head. He was picked up unconscious and taken to a neighboring cottage hospital. I was called to see him twenty-four hours later. When I reached the patient he was still unconscious, as he had been since the accident, and was surrounded by a bevy of female relatives, who rendered an examination and proper discussion of the case extremely difficult.

My first observations of the patient were these: He was a man of thirty-one, apparently in robust health, who was said to have been always well. He lay in bed, breathing stertorously. It was reported that his morning temperature had been 103.6° and pulse 100. When I saw him in the evening his temperature was 101°, his pulse 120 and his respirations 15. He could be roused to a muttering reply by loud questioning and it was stated that his condition had improved slightly during the day. All of his reflexes were normal, but there was a slight divergent strabismus. There were sundry bruises on the body and marked ecchymoses in the right temporal region and over the right loin. I could detect no other outward lesions.[1]

In the case of Mr. Fox the general symptoms, aside from the semi-consciousness, were not specially marked. The man was evidently in some pain from headache. He had had no vomiting, however, and his eye-grounds showed no evidence of irritation to the optic nerves. The labored breathing, however, and a marked congestion of the head, suggested compression at the base, and the slight divergent strabismus reinforced the suggestion; but there was no evidence whatever

of cortical damage, nor of special pressure upon the efferent nerves.

In these cases, if time enough be allowed, the range of temperature gives us extremely important prognostic evidence. A normal temperature is, of course, favorable; a steadily rising temperature is most unfavorable; a temperature suddenly elevated and then gradually falling again is favorable. Mr. Fox had had a high temperature, which had fallen more than three degrees when I saw him. There were no positive signs of fracture of the base.[2]

The problem immediately presented to me was, What is the patient's outlook in case no operation is done, and is an operation indicated? The x-ray gave us no evidence of a fracture of the skull; the vault of the cranium was intact to palpation. If a fracture were present it was probably in the posterior fossa. Aspiration of the spinal canal, in the lumbar region, brought away a clear cerebro-spinal fluid.

I summed up the case that night, therefore, as follows: The patient had survived his injury twenty-four hours; he had regained partial consciousness during that period; evidence of intracranial pressure was less than immediately after the accident; there was no evidence of cortical damage; there was no positive evidence of fracture of the base; there was no evidence of infection, as shown by the falling temperature. On these grounds I felt justified in making a diagnosis of severe concussion, without laceration,[3] and with slight and diminishing intracranial pressure. I advised delay. The wisdom of this proceeding was demonstrated by the subsequent history of the case.

[1] In cases of prolonged unconsciousness following head injuries one looks for evidence of intracranial pressure. The evidence of such pressure is twofold, general and local. The general evidence is due to interference with the functions of the great centers at the base of the brain, and is summed up in the trilogy: headache, vomiting and blindness (or choked disk). These symptoms may or may not be associated with stupor or coma. The common stertorous breathing is due to compression of the respiratory center, while the flushed face and dilated vessels are due to irritation of the vasomotor center. In addition to these general symptoms, one

looks for some special localized compression or irritation, such as might be due to damage of the motor area in the cortex, or to compression and injury of the efferent nerve connections.

[2] The outward evidence of fracture of the base in the anterior fossa — bleeding from the mouth and nose, — or in the middle fossa — bleeding from the ears, — is obvious and instant, but evidence of fracture of the posterior fossa is latent. The posterior fossa lies entirely behind the petrous bone, and blood from this fossa finds its way with great difficulty to the surface, usually appearing after thirty-six hours or more, as ecchymotic discolorations, in the region of the mastoid processes.

[3] Laceration of the brain may exist without obvious symptoms, especially laceration of some silent area. Every surgeon is familiar with such conditions. In a previous writing I reported the case of a man who remained in the Massachusetts Hospital for two weeks after what appeared to be a serious head injury, and apparently recovered. Just before leaving the hospital, however, he became unsteady in his gait, took to his bed, and in a couple of days died, with a rapidly rising temperature. At autopsy nearly half of the right parietal lobe was found to be completely disorganized. For such reasons as this we have learned to look upon all head injuries as doubtful in their outcome for many weeks, and to enjoin rest and quiet until all probability of latent damage has been eliminated. One bears in mind always, however, the possibility of Jacksonian epilepsy long subsequent to the injury. The possibility of such epilepsy leads us often to explore the brain, even though the immediate symptoms do not seem to warrant such exploration. In the case under consideration, however, there were no localizing symptoms and there was no evidence to point to a special seat of injury, so that any operation would have been blind and haphazard.

In the course of two weeks Mr. Fox had completely recovered his health and returned to Philadelphia. I have heard from him occasionally since then, and am able to report that he never had any serious after-results, and continues to-day in an active and successful business career.

Case 28. Some five years ago I was summoned, late one evening, by a colleague to see his mother, seventy-two years of age, living in a neighboring country town. She was suffering from a serious head injury. It was stated that about two hours before I saw her she had fallen from the top to the bottom of a sharp flight of cellar stairs, striking head first upon a concrete floor. She was picked up dazed, but not unconscious, and such was her condition when I first saw her.

This lady appeared to be a vigorous, well-nourished woman, who moved her arms and legs normally; with small pupils, both of which reacted normally; with a small scalp wound and a hematoma the size of a butter plate over the right temporal region. There was a slow, constant hemorrhage from the right ear and right nostril. I could detect no fracture of the vault; there were no paralyses; all her reflexes were normal; she was said to have vomited blood; incidentally, there was a comminuted fracture of the right clavicle, at its middle third.

Here was a case extremely grave in its outlook, but obvious in its nature. There was certainly a fracture of the middle, and probably of the anterior, fossa. There was presumably an extension of the fracture into the vault on the right side, though such an extension could not be made out by palpation. A subsequent careful examination of the tympanum confirmed this preliminary diagnosis. In this case our problem was not one of diagnosis, but of treatment. Had the patient been a young person, and had the evidences of intracranial pressure been more pronounced, I should have opened the skull low down and established free drainage, to minimize and relieve the intracranial pressure. This lady's age, however, the fact that she suffered from endocarditis, and the fact that there were no signs of increasing intracranial pressure, led me to temporize; indeed, I do not think that in any case I should have advised operation upon this patient.

We disinfected carefully the whole head and both ears; encouraged drainage from the affected ear by light wicking and frequent gentle douching, and wrapped the head in an abundant absorbent dressing. Greatly to my satisfaction, the patient made an uninterrupted recovery, — in my experience a rare fact, following so serious an injury, especially in an old

person. The temperature, which reached 101° immediately after the injury, came down to normal on the second day and remained normal; the pulse never rose above 80. The day after the accident there was an appearance of bloody, disorganized brain matter in the depths of the right external meatus, but there was never any further oozing of brain tissue. At the end of three weeks, save for occasional slight headaches, the patient appeared perfectly well, and remained thereafter free from cerebral symptoms during the few years that were left to her.

The accuracy of the diagnosis and the justice of the treatment were demonstrated some three years later, when the patient died of pneumonia. An examination of the head was then procured, and the pathologist demonstrated clearly just such a fracture of the base and vault as we had diagnosticated at the time of the injury. A considerable callus had formed in the petrous bone, which, incidentally, had caused an almost total loss of hearing on that side, and the crack from the base was found to extend well up towards the top of the calvarium.

Case 29. On the second day of September, 1907, Jeremiah McCarthy was working as a brick-layer on the fourth story of a new building. The scaffolding on which he stood gave way and he fell to the ground. His companion, who fell with him, was killed instantly. McCarthy was carried to a hospital where he remained unconscious for fifty-six hours, according to his own statement. The diagnosis of concussion appears on the hospital books. At the end of fifty-six hours the patient recovered consciousness, and gradually regained comparative vigor. He did not recover his health completely, however. His disposition seemed to have been changed. Previously a vigorous, rather active-minded, intelligent man, of small education, he became moody, dispirited, moping, given much to fear for his future, the victim of constant right-sided headaches; he suffered from loss of appetite and from emaciation; his left arm was feeble and he walked with a left-sided limp. Such was his condition when he consulted me on the 3d of December, three months after the accident.

My examination demonstrated little of positive value. There was the scar of a slight cut in the right parietal region, but no evidence of a fracture; his hand grasp on the left was feeble, as compared with the right; his left leg and arm were more emaciated than the right, and the left reflexes were negative; there was nothing peculiar in the eyes or in the tongue, except that it twitched rapidly when extended.

The man sat in my office in a depressed attitude, his chin on his chest, answered questions briefly and ineffectively, and relied apparently entirely on the active-spirited wife, who accompanied him, to tell his story. I saw him three or four times during the subsequent six weeks. About the 10th of December he had a slight left-sided Jacksonian convulsion, so reported, and another about the 20th. There was no further evidence of a positive brain lesion. Such evidence as we had, however,— the mental depression, the Jacksonian attacks and the enfeebled left side,— seemed to justify us in concluding that the man was suffering from some lesion of the right motor cortex. Accordingly, I determined to explore the right side of the brain.

On the 19th of December I exposed widely the right

cortex. I found no evidence of damage to the bone, but there was found, on laying back the dura, extensive thickening of the pia-arachnoid over an area as large as two silver dollars. Beneath the thickened pia we found those familiar collections of fluid which have acquired the name meningeal cysts, apparently however being no more than fluid retained in the meshes of the pia. I opened and evacuated these collections at several points, replaced the dura and removed the bone flap, in order to supply a permanent decompression to the laboring brain.

The man's subsequent history was interesting. For two days after the operation he suffered from intense headache on the right side, and there developed a marked spasticity of the left arm. One week after the operation, however, his mental condition was markedly improved and his paralyses greatly better. The mental condition, especially, attracted my attention. On the 27th of December, eight days after the operation, I allowed him for the first time to discuss his experiences with me, and then learned much that was novel, briefly as follows: It had appeared from his wife's story that he remembered nothing of his accident in the house at which he was working. He did not even remember what house it was, nor the nature of his work; he had had no recollection of going to his work, or of his fall. His mind was a blank from the day before his accident until he recovered consciousness at the hospital, five days after the accident. This recovery of consciousness was associated, as I have stated, with marked impairment of mental activity. Compare that state of mind with his mental condition when I talked with him eight days after the operation. He then welcomed me most cordially, putting out his right hand, and asking me to listen to his story. He gave me a lucid account of going to work on the morning of his injury, of mounting the scaffolding, of finding some of the planks loose and insecure, of complaining of the danger of the position, and warning his companion. He even remembered the giving way of the scaffolding. After that, of course, his memory was a blank until the recovery of consciousness at the hospital to which he was at first taken. All these things he recollected perfectly after the operation.

For some three weeks thereafter his mental and physical condition continued to improve. He was almost too joyous, and looked forward with complacent certainty to the recovery of his health. After three weeks he was up and about the ward, walking with little difficulty, eating with a vigorous appetite and rapidly gaining health and strength. He left the hospital at the end of four weeks. From this date, and greatly to my regret, the entire picture and scene changed. I was unable to follow his subsequent career closely, as often happens in the case of poor patients who drift away from hospital care. It appears, however, that the conditions of his home life were unsuited to his unstable equilibrium. Shortly after going home, although he retained perfectly his memory, he lapsed back into the moody and despondent condition in which I first saw him. He became physically and mentally useless, brooding constantly on his injuries and on the prospect of permanent invalidism. Such has continued to be his condition. He is now an inmate of a city institution, with a hopeless outlook, apparently.

The case is most puzzling and unsatisfactory. I cannot but believe that his final discharge from the hospital was premature and I still feel that under proper psychic influences, cheerful surroundings and gentle encouragement he might in time have regained a degree of health which should have enabled him to return to some manner of useful work. Whether this is mere speculation or not, the striking feature of the case was the recovery of a memory completely lost for several days, and the abolishment of paralyses and an epilepsy which had appeared permanent.

Case 30. The following case is somewhat interesting not only for the extremely grave pathological problem which it presents but for its medico-legal aspects and as demonstrating the perverted judgment of an interested litigant.

On the 15th of December, 1909, I was summoned hastily by a physician in a town some twenty miles from Boston to see him immediately in consultation on the case of James H. Marcy. I made all possible haste, and reached the house of the patient in about an hour and a half. There I found the attending physician, a man of experience and excellent judgment, together with the patient's father and brother. Both of these members of the family were intelligent about the situation and most anxious that everything should be done to save the patient.

James H. Marcy was a young man of thirty, in comfortable pecuniary circumstances, employed by his father in Boston in a considerable manufacturing business, and living in the country, where he assisted also in the conduct of a large farm. Two days before I saw him he was said to have fallen from a loft in the farm barn, striking his head against a stanchion. He became unconscious immediately and had been unconscious ever since. For the first two days he was "treated symptomatically." The physician who called me saw him for the first time about three hours only before I did.

As regards further aspects of the story, I could learn merely that since the injury Mr. Marcy had been continually restless, rolling his head about and throwing out his arms and legs in frequent activity. His pulse was said to have been about 80, his respirations 20 and his temperature normal.

I found Mr. Marcy to be a small, well-developed, active-looking young man, lying unconscious in his bed, frequently groaning and tossing, and throwing off the bed clothes. He dribbled urine and feces. Both pupils were small and equally contracted, though they reacted very slightly. His knee-jerks were active; there was no Babinski; there were no cremasteric or abdominal reflexes; he swallowed imperfectly; his face was flushed. The only external evidence of injury to the head was a torn wound of the right ear. His pulse was 110, his temperature by rectum 103°, his respirations 20, but not

stertorous. There was an extensive ecchymosis over the right shoulder and a fracture of the middle third of the right clavicle. I could not learn that he had vomited. He seemed to be in pain.

In view of the continued unconsciousness, the flushed face, the abolishment of reflexes, the contraction of the pupils, the bounding character of the pulse and the rising temperature, we seemed justified in making a diagnosis of acute, prolonged, intracranical pressure, due presumably to hemorrhage, associated with a fracture of the skull, most probably at the base. Further, in view of the time which had elapsed since the injury and the obvious steady failing of the patient, the prognosis was excessively grave. A let-alone treatment had availed nothing. Was it possible to improve the conditions or to save the man by any operation? That was our problem, which I discussed frankly with Mr. Marcy's father. The elder man was most solicitous. I explained to him the certainly fatal outlook as things were, and informed him that the prospect of recovery was improbable. I suggested, however, that possibly an operation for decompression and drainage might be tried, as a last resort, though I held out little or no hope of permanent benefit from such an operation. The father grasped at this feeble straw, and urged me to proceed at once with the suggested trephining. As the conditions at the patient's house were not favorable for operating, and as he was a long distance in time from my office, I proposed taking him to a hospital in Boston. This the father agreed to, and had him promptly transported by ambulance to a suitable hospital in my neighborhood.

Late on that same day I operated. The patient's condition had changed little, if any, though his pulse had risen to 120 and his temperature to 104°. I exposed the cranium extensively over the right hemisphere. In the temporal region I found a long crack in the temporal bone, running from the vertex down behind the ear and widening towards the base. Evidently it continued well into the posterior fossa, though I did not trace it to its end. I removed for decompression an area of bone about as large as a good-sized butter plate. The dura bulged into the wound and did not pulsate. On

opening the dura a large amount of blood and clots were discharged, and more were washed away by gentle irrigation. This relief of pressure was followed by returning pulsation in the brain. The pia was found deeply injected; evidently an extensive meningitis was already established. At this point the patient's condition became very bad. I hastily closed the wound and put the man back to bed, with his pulse 180, fluctuating between that and 160. During the next six hours he improved slightly; his tossings became much less and the indications of pain subsided; but his temperature continued to rise, and ten hours after the operation he died, with a temperature of 108°.

The subsequent developments in this case were not uninteresting. The father of the patient disclosed an interesting mental attitude; he recognized his obligation to his son's memory so far as to settle the accounts for the ambulance and for the hospital, as well as numerous other outstanding debts of his son, but he refused absolutely to recognize the claim of the surgeon for the operation, his statement being that the operation had done no good, that his son was of age, not dependent upon him, that he himself was in no way responsible for the medical care of his son in his last illness, and that charges for such care must be collected from his son's estate. His son left no estate, as the father admitted. The situation was exasperating, but is not unfamiliar to physicians.

Case 31. The winter of 1907–8 was punctuated for me by an unusual number of cases of genito-urinary disease, some of them puzzling, many of them yielding slowly to treatment.

On the 7th of December, 1907, there was brought to my office late one afternoon a young woman who entered supported on the arms of her friends and in an apparently fainting condition. Though married she appeared as a girl. After resting and being given stimulants she told the following story with the help of her mother and husband: She came of good stock, and had always been well and vigorous up to the time of her marriage; she was twenty-one, and two years married; her marriage was followed by a miscarriage at four months, after which she was curetted; then there followed a prolonged and obstinate cystitis and urethritis, the latter of which persisted when I saw her. The previous year, however, had not been one altogether of invalidism; she had been up and about mostly, and regarded herself as perfectly well during the first half of November, but on the 18th of that month she was exposed to cold in a rough automobile ride; her symptoms then returned, and she took to her bed, with fever and general abdominal pain. Her physician kept her quiet for the three weeks previous to her visit to me, during which time, in addition to the general abdominal pain and frequency of micturition, she grew gradually extremely weak and debilitated.

I made an examination of her urine at once, with this result: high, turbid, acid reaction, specific gravity 1009; a slight trace of albumen, no sugar, and a large sediment made up of coarse granular casts adherent, much pus free and in clumps, renal cells and pelvic epithelium; no blood; a few squamous cells.[1]

On examining the patient I found her to be a well-developed but emaciated girl, pallid and sick looking but sprightly and cheerful. Her temperature was 102°, her pulse 124, with a

leukocyte count of 25,000. The vaginal outlet was not peculiar, except for tenderness about the meatus; there was also some ill-defined tenderness in the region of the right ureter. Higher in the abdomen, and to the right of the navel, in a position corresponding to the right kidney, was a tumor the size of a child's head, hard to the touch, irregular, not movable, not tender.[2]

In the present case it seemed reasonable to conclude that the patient was suffering from a general septic process involving finally the right kidney. The left kidney and ureter were presumably intact, for there were no symptoms pointing to their involvement, while the total amount of urine secreted was satisfactory.

I sent this patient to the hospital at once, and while giving an extremely grave prognosis, observed her condition carefully for three days. During that time she began to look better, but her high temperature continued, ranging between 101° and 103°; the leukocyte count also continued high, in the neighborhood of 25,000. She passed twenty-four ounces of urine in twenty-four hours. It was soon obvious that no benefit would result from palliative measures, and that delay could end only in her death in a few days. Accordingly, after three days, I operated, cutting down upon the right kidney through a lateral incision outside of the peritoneum. I found the kidney to be a mass about twice the size of two closed fists, and surrounded by extensive dense adhesions, while the ureter throughout its length was greatly thickened and adherent. As the patient's condition was fair, I performed a rapid nephrectomy, though with some difficulty, removing the kidney and practically the whole ureter. As often happens in these cases, the renal vessels were found to be impaired by the inflammatory process; their walls were thickened, their lumina small, and the amount of blood supplied to the kidney inconsiderable. I closed the wound, with drainage, and was gratified the next day to find the patient distinctly better.

From that time on her progress to recovery was uninterrupted. At the end of three weeks she was sitting up, and at the end of four weeks she was taken home, in a comfortable condition. Six months later she reported to me as perfectly

well, the cystitis and urethritis having disappeared entirely, and that without treatment beyond the use of urotropin.[3]

[1] The history and examination, so far as obtained, suggest a postpartum infection, aggravated probably by the curetting. Evidently this infection had not at first involved the tubes. There was the further question, however, of a possible gonorrhea, suggested by the urethritis and the cystitis; moreover, the urinalysis pointed clearly to a pyonephrosis. No gonococci were found.

[2] The presence of a urethritis and cystitis and tenderness in the region of the right ureter point strongly to an ascending urinary infection. This is confirmed by the presence of a tumor in the region of the kidney, and the nature of that tumor may be a cause of some speculation. One thinks especially of an enlarged "surgical kidney," a kidney the seat of abscess, and the possibility of complicating renal calculi, though the history does not suggest the presence of stones. We realize that a pus kidney or "surgical kidney," so called, arises from two common sources, from an ascending infection through the urethra, bladder and ureter, or from a septic infarct of the kidney through the blood stream. The ascending infections are often of slow progress, and their nature is indicated by the history of the case; on the other hand, an acute septic hematogenous infarct arises suddenly, is often overwhelming, and through the rapidity of the process may lead to a condition of extreme danger, and shortly to death even.

[3] The outcome of this case was unusually good. We are accustomed to see long-continued suppuration follow the removal of these septic kidneys, suppuration promoted especially by the irritating presence of an infected ureter, which it is often impossible to remove entire, so that I rarely look for complete recovery until at least a year has elapsed. Doubtless the patient's youth was an important factor in her rapid convalescence.

Case 32. Mrs. Grass was said to be a purely neurasthenic invalid. Her sister, whose confidence I seem to have retained, sent her to me on the 30th of January, 1909. Mrs. Grass was twenty-nine years old, and had been married six years. She had one child, two years old. She told me that she had never been well, although never acutely ill. She had suffered during her girlhood from fainting "spells" and obstinate chronic constipation. Her parents thought her delicate, and consented reluctantly to her marriage. That event, however, passed off without special turmoil, and her health remained about the same as formerly until three years before I saw her. Then she became acutely ill, and laid her illness to "inhaling turpentine." Since then she had had an increase of her old symptoms, added to which was a constant burning under the right shoulder blade, which caused "dropping of blood into the liver and abscess of the liver." She found it difficult to lie on the right side. Coincident with this illness, her bowels became more nearly regular, but she was troubled with occasional headaches and cold sweats. Her appetite was good. In the past three years she had lost twenty pounds.

These statements were supplemented by a letter from her physician, in which he said that in September, 1908, "a liver and intestinal complication came on, with headaches, sweating, chills and vomiting, accompanied by diarrhea, which yielded to intestinal antiseptics. The backache continues more and more and the urine shows a greater increase of albumen, casts and pus."

When I examined Mrs. Grass I found her a "neurotic" looking, smiling, flabby woman, slight and undersized, weighing one hundred and ten pounds. There was nothing peculiar about her chest, but the abdominal wall was lax and the abdominal contents easily palpated; the right kidney was on a level with the iliac crest, while the shape of the abdomen and the patient's round-shouldered attitude, combined with the low-lying abdominal tympany, made practically certain a general abdominal visceral ptosis. The urine was that of chronic pyelitis.[1]

At the time of my first interview with Mrs. Grass it seemed best that we should undertake no operation whatever, but

should plan a long course of proper exercises to strengthen the abdominal muscles, the wearing of belts and braces to improve the posture and to hold up the viscera, and the employment of a proper diet. Accordingly, I put her into the hands of a competent physical trainer, had her wear a well fitting corset-belt, and directed her physician regarding her diet.

My next note was made on the 12th of March, six weeks later, when I saw the patient for the second time. She was not much better. She complained of a new pain near the end of the sternum and on the right, and there appeared to be a distinct palpable knuckle at the spine of the ninth dorsal vertebra. At this time I had a cystoscopic examination made and also catheterized the ureters. This examination showed a decided pyelitis. An x-ray showed nothing definite.

For the next seven months Mrs. Grass made little progress. Her pain and discomfort grew no worse, however, while the condition of the urine was practically unchanged. In view of these facts, supplemented by my observation that it was impossible properly to replace the prolapsed and infected kidney, I decided to explore that organ. At that time, on October 5, I made the following note: "The patient is still much troubled with abdominal distress and a sense of aching and dragging in the lower part of the abdomen. There is in the urine no evidence of tuberculosis, either by the ordinary tests or by a guinea-pig inoculation. The patient is anxious for an operation." [2]

[1] In view of this patient's lifelong invalidism, with symptoms suggesting an impaired digestion, with flatulence, distress after food, and constipation, alternating with diarrhea, and in view further of the position of her abdominal organs, it seems proper to assume at once that her troubles are due, primarily, to a congenital ptosis of the viscera, and to recall the fact that some degree of visceral ptosis is found in a very large proportion of persons, especially of women.

[2] Ordinarily in such a complicated case as this the surgeon is somewhat at a loss as to what operation to do. The usual nephropexy accomplishes little, for nephropexy has no bearing on the general ptosis. My decision to operate was arrived at through consideration of the *diseased* condition of the kidney.

On October 11 I cut down upon the kidney through a right lateral incision. I found it irregular in outline and containing several softened areas beneath the fibrous capsule; the pelvis and ureter were greatly thickened. Accordingly, I removed the kidney, with the ureter; at the same time I opened the peritoneum and removed the normal appendix. The pathologist's report on the kidney states that there existed an extensive chronic pyonephrosis.

Mrs. Grass made a good recovery, and went home at the end of seventeen days. Her subsequent story was typical, and, although not entirely encouraging, illustrates the slow improvement which may follow such an operation. Three months after the operation she said that she had occasional pain and distress in the region of the left (remaining) kidney (not uncommon), but that otherwise she was improving rapidly. Ten months after the operation, however, she was feeling greatly better and seemed to be more comfortable than for years. Of course the ptosis persisted, but this was fairly well corrected by the wearing of a comfortable abdominal support.

Case 33. Late one evening in May, 1910, I was called hastily by a physician in the neighboring town of Braybrook to see a patient who was acutely ill. I arrived at the house about midnight, and heard the following story. The patient, Mrs. Smiley, was sixty-two years old and the mother of several children. She had reached the age of fifty-seven without any special ill-health. In the past five years, however, she had had a great deal of " dyspepsia " and two severe and distinct attacks of pain in the left loin, at which time she passed a little blood from the bladder. The pain at these times lasted one or two days and was excruciating in character. The last attack occurred six months before I saw her. Three days before my visit she had a third attack, in which she was seen by my consultant. He described her as writhing on the floor and screaming in agony. He said the pain was in the left loin and coursed down towards the bladder, following the line of the left ureter. This pain was lessening somewhat, but was still severe.[1]

I found Mrs. Smiley to be a robust, active-looking woman, lying in bed in a tense attitude, flushed and anxious in appearance. Her temperature was 104°, her pulse 120, her respirations 30 and shallow; her skin hot and dry. The nurse stated that she had passed but six ounces of urine in the previous twenty-four hours. She had a slight endocarditis; while I was examining her she vomited; there was no edema anywhere; her abdomen was not distended; there was an extremely tender area in the left costovertebral angle, so tender that I could not palpate satisfactorily or make out a mass. The one urgent fact about her condition was that she was apparently dying of uremia, and unless the kidneys could be stimulated to proper functionating no operation was to be considered for a moment.[2]

I agreed with my consultant that his fears for Mrs. Smiley were entirely justified, and explained to the patient's family the extremely grave nature of her illness. Before doing anything further, I attempted to stimulate the *right* kidney to further action, and much to my satisfaction and somewhat to my surprise I accomplished this in the next twelve hours, through the use of the hot-air bath and nitroglycerine. By

noon of the following day the patient was reported to be in comparative comfort, to be sweating copiously and to be passing frequently urine in two and three-ounce amounts. She was then removed to a hospital, where I found her, eighteen hours after my first interview with her, lying comfortably in bed, with her temperature 99°, her pulse 84, and her condition greatly improved, while she was passing a good amount of urine. For the next three days her general symptoms improved steadily, but her condition still remained one of extreme gravity. A careful series of x-rays showed no calculus. Cystoscopic examinations, however, informed us that the *left* kidney was secreting practically no urine, but the indigo-carmine test demonstrated a *right* kidney functionating well. Accordingly, I advised an operation upon the left kidney.

I undertook this operation with a good deal of hesitancy, but I felt that it was imperative, if we were to forestall another attack, which might end fatally. I employed nitrous oxide and oxygen anesthesia,— a great advantage when one is dealing with impaired kidneys, as it has little or no general depressing effect and has no effect whatever on the kidney parenchyma. I exposed with some difficulty the left kidney, through a wide incision in the flank. The kidney was found slightly enlarged, studded with five or six areas of softening, suggesting abscesses, and a number of small injected areas, evidently infarcts. On opening the pelvis and passing my finger into the calices I could discover no stones, but the kidney tissue was extremely friable, tearing and bleeding profusely with the slightest handling. From the renal pelvis there escaped about one ounce of pus. The ureter was not abnormal. In view of the extensive hemorrhagic condition of the kidney and its great friability, and in view of the difficulty of controlling hemorrhage, I decided against the minor operation of drainage. Accordingly, I removed the whole kidney, with the ureter, a somewhat difficult operation under the circumstances but the only possible procedure, I believe, as I now review the case.

The patient rallied, with little pain, and entered well upon her convalescence. Unfortunately, her condition was so depressed that it seemed unlikely she could withstand any of the

storms incident to recovery from such an operation. I said that we evacuated an abscess in the renal pelvis. From this pus an infection occurred. Mrs. Smiley grew acutely ill on the fourth day, her left chest became quickly involved in a pneumonic process, and she died just one week after the operation.[3]

[1] The history of the case up to this point suggests most strongly a renal or ureteral calculus, and this was the view of the case which I took until I saw the patient.

[2] The sudden onset of the pain, its excruciating character, the suppression of urine and the characteristic tenderness in the costo-vertebral angle point emphatically to an acute renal infection of hematogenous origin. Evidently this patient had passed through two somewhat similar crises, the nature of which had gone unrecognized. These acute infections (acute hemorrhagic infarcts of the kidney) are overwhelming and often promptly fatal. Wide areas of the kidney are quickly destroyed, suppression of urine supervenes and the patient dies, apparently of acute septicemia. We have learned that the one imperative method of treatment in the extreme cases is promptly to remove the kidney, if we can assure ourselves that the kidney of the opposite side is properly doing its business.

[3] All surgeons who are experienced in this grave disease and in the high mortality which follows acute hemorrhagic infarcts of the kidney will recognize the dangerous condition of Mrs. Smiley from the start. Indeed, it would not have been surprising had she died in one of her earlier attacks of infection. The unfortunate outcome of the case while in my hands goes merely to confirm me in my judgment that early, prompt and radical measures are necessary if these patients are to be saved.

EMPYEMA.

Case 34. Miss Fanny Johnson was an unfortunate woman, at the end. When I first saw her in March, 1910, she was fifty-three years old. She had been a school-teacher all her life, and a successful school-teacher,— active, energetic, physically and mentally competent, never neurotic, rarely ill. On the 25th of February, 1910, she had a sharp attack of pneumonia, and from that time the important points in her story are summed up for me by her attending physician in the following scanty words: "Two weeks ago she had pneumonia; after a week the temperature fell; we thought she was getting well, but slowly; four days ago we tapped her right chest and drew off about twelve ounces of thin pus. She is very sick. What shall we do?"[1]

This is a rather characteristic story, and I do not know that the physicians in the case conducted it improperly. It would be a rather tough narrative, however, to put before a jury or an audience of critical medical students. One asks, "What were you doing during the week before the tapping? What was the patient's condition? Was she very ill? Had you no reason to suspect pleurisy or empyema? Did you realize the frequency of this complication after pneumonia?" Surgical consultants are often regarded as having an easy time of it, because a definite diagnosis has become clear late in the illness before they are called in. This is often true, but the ease of the diagnosis is offset frequently by the hopelessness of the condition which they are asked to treat, and by the blame they get if the patient dies after a desperate operation.

When I saw Miss Johnson I extracted from her, haltingly and feebly, the following story. Since the subsidence of her pneumonia she had grown increasingly weak, without appetite, with pain in the right chest, with frequent nausea, with a sense of great prostration and illness; she thought now that she was probably dying; at no time in the past two weeks had she been in any way comfortable.

The temperature by chart was seen to range during the past week from 100° to 103°, working slowly upwards; the pulse from 90 to 110 ; the respirations from 24 to 40. The patient was so weak and the diagnosis so certain after the tapping that I made no delay with auscultation and percussion.[2]

A quickly performed drainage operation through the chest wall produces little shock and is extremely effective. I decided on such an operation in Miss Johnson's case, in spite of the fact that she was badly septic and that her chances of recovery were slight; moreover, her heart was acting badly and there was an obvious endocarditis; but to have left her would have meant certain death within a few hours. Accordingly, I gave her a little ether, enough to stimulate, and without moving her from the bed I opened the chest quickly in the back beneath the ninth rib, without excising the rib, and inserted a rubber spool, which established complete and efficient drainage. In a few minutes the patient had recovered from the anesthetic, and assured us that she felt greatly relieved already. Unfortunately, the toxemia was too deep for cure by the simple treatment of drainage. After a few hours of comfort, Miss Johnson sank rapidly and died during the succeeding night, her pulse ranging rapidly upward and her temperature reaching 105°.

Although this case may strike the reader as belonging properly to the internist, and to be of little interest in this place, I protest that it teaches an important and serious lesson, — the imperative necessity which rests with the family physician to investigate thoroughly, and with consultation if need be, a chest which does not clear up after the crisis of pneumonia, and the urgent need of emptying such a chest should it become the seat of empyema.

[1] The character of the pus withdrawn was interesting; it was thin, greenish, sweet and, I was told, loaded with pneumococci. The tapping gave the patient some slight relief.

[2] There is often little excuse for failing to make a diagnosis of pleuritis with effusion, except when the effusion is small and pocketed. A chest full of fluid should never be mistaken for a consolidated lung, because the exploring needle always settles the question.

Case 35. John Vanderbilt was nineteen years old when I saw him in the accident room of the Massachusetts General Hospital, on the 25th of June, 1910. He was a carpenter, born in Nova Scotia, and had always been well and vigorous. It was noted of him especially that he had had no previous bowel disturbance, or digestive troubles, or urinary disorders. His present symptoms began four days before I saw him, when he was seized with severe general abdominal pain, without nausea or vomiting or chills. After three days he went to bed, so severe was the pain. He had chilly sensations then, and some nausea. His bowels were loose throughout these days, and he had three or four watery movements daily, without blood or mucus. For the two days before entering the hospital he had a slight cough, with some thick, green expectoration. Such was his story when I saw him in the hospital.

The boy looked haggard and anxious. His belly was distended, firm, tense, tympanitic everywhere; it was especially tender beneath the right rectus, in the neighborhood of the navel, and there was spasm of the rectus. Examination by rectum caused high, intense pain. His temperature was 105.2°, pulse 110 and respirations 24. The case seemed to me a clear one of diffuse peritonitis, arising probably from an appendicitis or a diverticulitis. I operated immediately. I found a normal appendix and removed it. There was nothing peculiar within the abdomen except distention of the intestines. There was no peritonitis. I explored the cavity as well as I could with the patient in an almost dying condition, but found nothing to account for his symptoms. The abdomen was then closed and drained with a small wick.

Within twenty-four hours the temperature had dropped to normal, the pulse to 80 and the respirations to 20, but the patient did not recover; he lost ground steadily. Ten days after the operation his fever returned and ranged between normal and 104°. Nothing positive could be made out of his blood; we could not make a diagnosis of typhoid fever; the leukocyte count ran from 10,000 to 20,000. My colleagues at the hospital in consultation could not help us. On the 14th of July, Dr. J. J. Minot made a physical examina-

tion, which was absolutely negative, except for the abdominal wound. On the 17th of July, twenty-three days after the operation, the patient had a sudden chill, with pain in the right lower chest; there was no cough, dyspnea or cyanosis. The pain recurred at intervals for a few days. On the 18th the heart was found displaced to the left and some fluid was discovered in the right chest. The next morning Dr. Minot withdrew 300 ccm. of cloudy serum from the right side. The fluid contained an atypical streptococcus.

I then took over the patient, and the next day operated, removing a portion of the eighth rib and clearing out one and one-half pints of thin greenish pus. That was on the 20th of July, 1910. The patient remained in the hospital for many weeks, the cavity slowly closing until at the time of my last report, in December, he asserted that he felt well and expected soon to go to work again.[1]

[1] The obvious lesson in this case lies in the occasional extreme difficulty of diagnosis of abdominal and thoracic diseases.

Long ago we learned that the early symptoms of pneumonia may simulate the early symptoms of appendicitis, but as Moynihan has said, with pneumonia in mind and after a careful physical examination a correct diagnosis should be reached. In the case of Mr. Vanderbilt, however, repeated physical examinations, by various competent attendants, failed to discover anything wrong in the chest, while the state of the abdomen on the patient's entrance to the hospital was almost typical of a fulminating peritonitis, with source in the right inguinal region. Observe that the rather active diarrhea from which the patient suffered does not necessarily contra-indicate a peritonitis. The second point in this case, as contrasted with Case 34, is the prompt discovery and treatment of his pleuritis. Doubtless this young man would have become septic and died within a few days had not his chest been relieved by operation.

INTESTINAL.

Case 36. It occasionally happens that even the most experienced surgeon is forced to wonder why patients suffer the extreme of misery before applying for assistance. Mrs. Byrd had suffered for thirty-one years. When she consulted me on the 1st of July, 1910, she was fifty-four years old. Her trouble began with her one and only confinement, at the age of twenty-three. Her active and solicitous son, the cause of all the trouble, brought her to me. Briefly, it appeared that with that child-birth there occurred a bad tear of the perineum into the rectum, which later was twice repaired. There had always persisted a recto-vaginal fistula, so that part of the fecal stream passed by the vagina. This miserable and depressing condition had persisted without change, and yet the woman lived on, a respected member of the community. She went through the menopause at forty-eight. Her general health until within six months had been fair, though with a poor digestion and chronic constipation. Various endeavors had been made to close the recto-vaginal fistula. At one time it looked as though a successful closure had been accomplished through some form of flap-splitting operation. Unfortunately, however, this operation resulted only in causing a great amount of scar tissue to form about the rectum, with a resulting serious stricture, above which the fistula remained open. From that time on nearly the whole of the fecal stream passed through the vagina, and the woman's misery was greatly increased. For the six months previous to my seeing her she had declined greatly. A chronic proctitis existed, with a constant discharge of mucus and pus. Of course there was an extreme degree of vaginitis. With all this there was a constant septic absorption, a leukocyte count of 18,000, a temperature ranging from 100° to 103°, and a nasty, quick, irregular pulse running from 90 to 100. The other organs of her body were unimpaired.[1]

On examining Mrs. Byrd I found her to be a person apparently a great deal older than her given age. She was fifty-four; she appeared seventy-four. She seemed old, haggard, worn, with poor pulse and no vitality. In view of these facts, I judged it unwise to attempt any of the exhausting plastic operations for repair of the rectum and vagina. I believe she would have died on the table. In order to bring her into some sort of condition, however, and to make her life more tolerable, I decided on a quick colostomy. This proved easy, the lower end of the sigmoid being brought up into a wound in the left groin made by muscle splitting.[2]

[1] The ordinary operations for closing a recto-vaginal fistula of this extent are useless. Such operations — refreshing the edges and bringing them together — can succeed only when the field is clean. An extremely useful operation, however, and one too little employed, is that which consists in a partial proctectomy, or excision of the anus and lower part of the rectum. This is done in the ordinary manner, through the perineum; the encircling incision is made about the anus, the rectum is dissected loose and is drawn down until the portion containing the fistula is delivered outside of the sphincter, the fistula, of course, being dissected loose; the rectum is cut off outside and stitched to the skin. This operation is not particularly dangerous and is extremely effective.

[2] The important item in performing colostomy is to bring up a goodly amount of slack bowel into the wound from *below*, so that there shall exist *above*, a good-sized pouch for the collection of fecal material. If the upper part of the sigmoid is drawn tightly into the colostomy wound there will exist no proper pouch above the wound, so that there will be a constant passage of feces, greatly to the distress of the patient.

Within two days Mrs. Byrd began to improve. At the end of ten days the wound had healed well, and the fecal stream was passing entirely by the artificial anus. She came back to health slowly, of course, but I had the satisfaction of seeing her some two months after the operation, at her house in the country, where she appeared to have grown younger by twenty years. She managed the artificial anus easily, with a well-constructed apparatus, which she changed but twice daily, while the freedom from distress and the moral benefit were striking.

Case 37. William Epsom, seven years old, was brought to see me on the 7th of July, 1910, by his agitated physician. Four weeks before I saw him the boy was said to have fallen and broken his left forearm. His physician stated to me that the lesion was a double greenstick fracture, both bones being broken; that he straightened the bones, with the patient under ether, without trouble; and he showed me an x-ray of the bones taken the following day. This x-ray did not suggest a greenstick fracture, but, rather, a subperiosteal fracture of both bones. The position and alignment were perfect. The physician stated further that after reducing the fracture he put up the forearm in anterior and posterior splints.[1]

During the following four weeks the physician saw the child several times, but did not remove the splints, as the " hand appeared natural and limber " and the splints appeared to be holding the arm in excellent position.[2] The day before I saw the patient the physician took off the splints, expecting to find a straight arm, with union. To his mortification, he found a bent forearm, with soft union, the radius being slightly bent and the ulna being bent at a considerable angle, about 20°.

When I examined the boy I found the condition to be as had been described to me. The child was a ruddy, active lad, of excellent heredity and in sound health. In addition to the deformity of the forearm already mentioned, I found large calluses about the four bone ends, rendering the straightening of the arm very difficult. With the patient under nitrous oxide anesthesia, I straightened the bones and put them up carefully in an internal angular splint and anterior and posterior splints. I then had another x-ray taken. This x-ray was disappointing. It showed that the great callus on the posterior aspect of the ulna rendered proper splinting and straightening of the bones practically impossible.[3]

[1] Fractures of the forearm are best retained in position by immobilization either in plaster of Paris or in anterior and

posterior splints, supplemented always by a right-angle splint fixing the elbow joint. This fixation of the elbow joint is extremely important, if the bones of the forearm are to be kept at rest. Moreover, the splints on the forearm should be carefully adapted to the size of the arm and should be well padded.

[2] The care of fractures, especially in the first week after the accident, is difficult; malposition takes place easily inside of the most carefully applied splints even; moreover, muscular contractures due to tight strapping may occur (Volkmann's contracture), unless the arm be frequently inspected.

[3] At first thought this impossibility of straightening the bone does not seem likely, but when one recalls the fact that the ulna is closely united to the radius both at the elbow and wrist joints the mechanical difficulties of the situation become apparent. Had I waited a couple of months, until union was solid and the callus had diminished, it would have been much easier to refracture and reduce properly the damaged ulna.

In spite of every effort, frequent dressings and frequent x-rays, I found it impossible to secure a union of the ulna in proper position. So long as the active processes of bone formation continued, the great callus persisted, rendered entirely apparent by the x-ray. I secured a good deal of improvement, however, over the extreme deformity as I first saw the fracture, but eventually the bones united at something of an angle, the radius nearly straight, the ulna distinctly bent. The arm was strong and flexible, however, and the child in the course of three months was able to take part in the games of other boys. Fortunately for the family physician and for his consultant, the family of the child were reasonable and recognized the difficulties of the situation. My final advice was that they wait for some months, until the callus had subsided, when it would be possible, if thought best, to make an open fracture and plate the bones in a straight position. Later the mother of the boy informed me she was so well satisfied with the present condition that she should wait until the child grew older, so that he might decide for himself about any secondary operation.

Case 38. A bright little girl, six years of age, was sent to me in July, 1910, by her physician in the country, to have her fractured wrist examined and treated, if necessary. I undertook the case at a disadvantage. The child was what is commonly known as a "spoiled child." For more than half an hour in my office she threw herself about on the floor, kicking, screaming, and biting all who came within reach. Of course it was necessary to give her an anesthetic — nitrous oxide — but the excessive activities of the patient, except while she was under the anesthetic, rendered proper treatment extremely difficult.

I report this case because as a fracture it was somewhat unusual. The left forearm was broken near the wrist — not a Colles fracture, but, as the x-ray showed, a clean fracture through both bones, about one inch above the wrist joint. One might suppose that this would be a simple affair to treat, but on considering the anatomy of the parts one finds that the pronator quadratus muscle binds tightly, as in a sheath, these two bones at the point of fracture. The result is that the upper fragments of both bones are drawn together when a fracture occurs, so that a perfect alignment is difficult to attain. The x-ray plate showed this condition beautifully. Both lower fragments projected slightly outside of the upper fragments. At first I was inclined to transform the fracture into an open fracture, in order to secure perfect alignment by plating, but on consideration it seemed best to try first a week or two of careful splinting. The splinting was successful. An x-ray taken two weeks later showed the alignment to be nearly perfect, and at the end of a month union was firm, without the slightest deformity, and the motions of the wrist and fingers good.[1]

[1] The circumstances of this case illustrate again, if illustration were needed, the difficulties and annoyances of fracture practice. Unthinking persons, and laymen especially, assume that the reduction and care of a fracture is an easy, straightforward matter, requiring no special skill. The fact is that failure to secure a perfect cosmetic and functional result is so obvious to the patient and his friends that no class of cases puts a surgeon more upon his mettle. This particular case —

the child being the daughter of a well-known and exacting business man in Chicago — caused me much trouble, and while the father admitted that the result of the treatment was excellent, he persisted in regarding the whole affair as trifling; yet had the case turned out badly, and the wrist been deformed ever so slightly, this man would undoubtedly have made trouble for me, probably by bringing suit in the courts,— a frequent outcome of fracture treatment.

Case 39. Wallace Bonesteel was a vigorous lad of seventeen. His physician brought him to my office on the 4th of November, 1907. He was a senior school-boy in one of the large New England boarding-schools, and was particularly active at football. He was a big fellow, weighing one hundred and seventy pounds, tall, strong and well developed. His previous health had been excellent; there was no story of typhoid, scarlatina or arthritis. One month before I saw him he was severely bruised in a football scrimmage, being struck on the front of the right thigh. There followed considerable pain and stiffness for many days, but the lad continued playing football. Two weeks later he was struck again in the same spot. This second injury was followed by a marked swelling of the thigh, and for the next two weeks he was kept in bed, with the leg bandaged. Then he was brought to see me.

I found him free from pain, and looking well, but the leg was weak and the thigh swollen. On inspection I found a mass lying on the front of the thigh, and apparently connected with the rectus muscle, about eight inches in length and of an elliptical shape, roughly about the size and proportions of the half of a split watermelon. The swelling was hard; at its lower angle there was a sense of obscure fluctuation. The mass seemed to terminate about four fingers' breadths above the patella; at that point there was a marked depression, as though from damage to the fascia of the rectus. No x-ray was taken.[1]

Young Bonesteel's physician had made a diagnosis of laceration of the rectus muscle, with hematoma, and I concurred in his opinion. So extensive was the swelling, however, and so indolent its progress towards recovery, that I advised an operation to remove the mass.

Two days later I went to the school and operated. The findings were interesting. I opened the great swelling through a four-inch incision on its outer side, and dissected down through the soft parts to the shaft of the femur, which appeared much enlarged. I found no superficial hematoma, nor any damage to the rectus or other muscles. Enlarging the incision, I scraped away the muscles on the front and outer side of the femur for a short distance, and discovered that the

swelling was of the femur itself, on the front of which there had developed what appeared to be a bone cyst,— a smooth, rounded, oblong enlargement of the bone, evidently containing fluid. I opened into this mass, when immediately there escaped twenty ounces of a sticky, straw-colored serum. On enlarging the opening in the cyst still further and following the shaft of the femur up and down, I ascertained that the swelling extended from just above the patella to within four inches of the lesser trochanter of the femur; that is to say, it seemed to involve three fifths, at least, of the shaft of that bone. The cyst wall was thick, cartilaginous, with occasional bony plates developing in the cartilage. At the bottom of the cyst was the shaft of the femur, nodular, roughened, irregular, covered with purple granulations. At this point I found myself compelled to desist, because I had promised the boy's parents, by wire, that I would do no serious operation, and the look of things at this point certainly was serious. I did not know the exact nature of the cyst, nor the extent of the operation which might be necessary. A high amputation seemed uncalled for, yet, if this tumor should prove to be sarcoma, amputation at the hip joint was inevitable. Accordingly, I removed portions of the cyst wall and of the deep granulations for examination, and closed the wound, preliminary to a later and more extensive operation. The patient rallied promptly from his anesthetic, and felt very well the next day.

I submitted the portions of the tumor to Dr. William F. Whitney. His report is interesting, for the condition is not by any means common, though I suppose all persons exposed to serious injuries may expect to suffer as did young Bonesteel. Dr. Whitney writes: " Microscopic examination showed a fibrous tissue structure, in which small scattered areas of bone were formed, normal in appearance except that the lime salts were sparingly deposited in them. In the inner part of the wall of the cyst there was considerable hemorrhage. The inner surface was smooth and fibrous. There is no evidence of a sarcomatous growth, and the condition is consistent with a periosteal inflammation, which may have been caused by some injury which had produced hemorrhage between

the periosteum and bone. Shortly expressed, the diagnosis is subperiosteal hematoma."[2]

[1] Severe injuries to the extensors of the thigh are common in football. The nature of the familiar lesion "poop" is usually a partial or complete tear of the sheath of the rectus muscle; sometimes many bundles of muscle fibers also are damaged or destroyed. There results hematoma, and weakening of the leg. The usual treatment consists of rest, with the leg in an elevated position, bandaging and cold applications.

[2] You will observe that this cyst was not that form of tumor commonly known as "bone cyst." This cyst was a subperiosteal hematoma, entirely outside of the shaft of the bone. Ordinary bone cysts develop within the shaft, and cause a distention, thinning and even destruction of the shaft itself.

Young Bonesteel's parents immediately saw the need of a further operation, and authorized me to proceed, which I did five days later. The rest of the story is a simple one: I exposed the shaft of the femur, turned aside the soft parts and trimmed and chiseled away the whole of the cyst wall, leaving exposed the granulating shaft; I closed the great wound with drainage, and had the satisfaction ten days later to find it soundly healed. This lad had a prolonged and stormy convalescence, however. After recovering entirely from his operation, but before leaving his bed, he developed a pericarditis and was invalided for many months. Eventually he regained his health, and is now an active athlete in one of our large colleges.

HERNIA.

Case 40. Georgina Mahoney was thirty-seven years old when her physician in the country asked me to see her with him, on the 28th of October, 1902. She was a hard-working woman in a country store, and gave a long history of ill-health,— scarlet fever when ten years old, followed by dyspnea and palpitation ten years later, evidently due to a heart affection which persisted. During the years before I saw her she developed a train of troublesome dyspeptic symptoms, — distaste for food in the morning, a constantly poor appetite, great flatulence, sour stomach and constipation, five or six times a year attacks of abdominal pain, located mainly in the left lower quadrant of the abdomen, but associated also with occasional acute epigastric pain and pain in the left groin. During the previous year she had lost about twenty pounds in weight. Three days before I saw her she had suffered from one of these attacks, and took to her bed, with constant nausea, general abdominal pain and a rising fever.[1]

The patient lay in bed, languid and flushed, weak and moderately cheerful, her pulse 110, her temperature 99°. She said that she had been more comfortable during the past few hours; her nausea had ceased and her bowels were moving; the pain also had diminished greatly. On examining the heart I found it somewhat enlarged, the apex being in the mammary line and the right side distinctly to the right of the sternum; there was a loud systolic murmur at the apex, but compensation seemed to be good. So much for the heart at present. On examining the abdomen, however, I found a condition which was striking; the belly was somewhat distended and tympanitic; there was no tenderness anywhere except in the left groin, tenderness running down towards the vulva and thigh; in the left groin was a mass the size of a goose egg, — more accurately, it was a mass projecting from the inguinal ring and burrowing towards the vulva; it was tense, slightly reddened and tender; it was slightly fluctuant, but not

tympanitic, apparently an inguinal hernia composed of omentum. On careful cross-questioning I ascertained that this mass, of greater or lesser size, had persisted for some fifteen years.[2]

Evidently Miss Mahoney had suffered during the previous three days, and at varying intervals in the past, from partial strangulation of the omentum in the hernia. The condition seemed to me to be serious, and in spite of the state of her heart I advised an operation to remove excess of omentum and to close the ring. As a rule, such a damaged heart as I have described bears well ether anesthesia and a short operation, though one remembers always that the operation for inguinal hernia in enfeebled persons is by no means devoid of danger. Such persons have low resisting powers, they become easily infected, and in the face of infection their hearts quickly fail. Accordingly, I operated the next day.

The operation was simple and quickly done. On opening the hernial sac I found a large piece of incarcerated omentum, about the size, when spread out, of a woman's pocket handkerchief. This omentum was thick and rather ugly looking; the circulation in it was impaired, while there were two or three spots which showed a beginning gangrenous process. I removed all the suspicious omentum, enlarged the ring, returned the carefully tied omental stump and did a radical cure of the hernia. The patient stood the operation well, and all promised favorably.[3]

The next day I found that Miss Mahoney had failed to rally as I expected. She had much continuous and depressing nausea all day. On the second day, however, her bowels moved well, her abdomen became flat, her pulse improved, her temperature fell to normal and the outlook was good. For a week we believed that she was on the high-road to recovery. On the 6th of November, however, eight days after the operation, my consultant called me urgently to see her. I found that she had been failing during the preceding night; her vomiting had returned, her heart was fluttering, her pulse was soft and extremely rapid, ranging from 120 to 160, edema of the legs had appeared and the urine had diminished; her temperature fluctuated in the neighborhood

of 102°. There seemed no reason to suspect peritonitis, for there was no abdominal tenderness and the bowels were moving well; nor was there distention. She never rallied, but sank into a muttering delirium and died that night, evidently of disease of the heart.[4]

[1] The given list of symptoms suggests two distinct conditions; a cardiac disease, with probable dilatation and lack of compensation, and, secondly, some serious organic derangement of the gastro-intestinal tract. The absence of appetite in the morning and the generally poor appetite go very well with a visceral ptosis; while the pain in the left lower quadrant of the abdomen might mean diverticulitis or some form of intestinal stricture; moreover, the pain in the epigastrium seemed more suggestive of a chronic duodenal or gastric ulcer, or possibly of gallstones.

[2] An incarcerated inguinal hernia composed of omentum, and of long duration, may or may not cause serious trouble. The chances are, however, that trouble eventually will arise. The firmly attached omentum drags upon the transverse colon and stomach, and causes general indefinite abdominal pains. Constipation is common, but the most important consideration is the probability of strangulation. The open ring seems to attract more and more omental material. A sudden stoppage of the circulation may arise, and extensive necrosis of the omentum may result.

[3] The tying off of an omental stump is not always a simple matter. Do not put around it a mass ligature, but tie it in small sections, preferably with absorbable catgut. A mass ligature may slip, and serious or fatal hemorrhage may result.

[4] This case, like others which I have reported, brings forcibly home to the surgeon the question of operating in the face of grave conditions threatening death. One cannot say what would have been the outcome had I postponed the operation, but the imminence of a general infection gave reason enough for operating when I did. On the other hand, had the operation been postponed, had it been done a month later even, it is probable that the seriously damaged heart would in any case have failed. We cannot state, as is often lightly stated, that a bad heart is not hurt by ether. Ether certainly does depress the resisting powers. In 1902 we were not using spinal anesthesia. I believe that that method, as used to-day, would have given this patient a far better opportunity for recovery.

Case 41. A physician practicing in Vermont sent me an urgent message on the 1st of November, 1909, stating that he was bringing down to Boston a patient acutely ill with some obscure abdominal disease, and asking my assistance. The next morning he reached the hospital with his patient, and I saw them at once. The story was as follows: The patient, Mrs. Booth, was a married woman of fifty-two, and enormously fat, weighing some 325 pounds. She had borne one child twenty years before, but without special disturbance. There was nothing else notable in her past history, except that she was a farmer's wife and had lived on an inferior diet all her life. Some twelve years before I saw her she had begun to suffer with dragging pains in the abdomen, indefinite in location, irregular in time, save that they usually came on late in the day; they appeared to be made worse by eating, the pain reaching its maximum three hours after taking food, and gradually disappearing without special cause. On waking in the morning she was comfortable. She never noticed any special point of pain or tenderness, beyond observing that she was more sore below the navel than above it. In the past five years she had grown larger than ever, and believed that her abdomen was now constantly distended. She had passed the menopause some four years. During the past four years her distressing symptoms had increased, and now included morning headache and nausea, extremely obstinate constipation, increased flatulence and decidedly increased pain. Her physician informed me that there was no doubt latterly about the rapid growth of her abdomen; that she appeared as a person bearing a large ovarian tumor; that the whole lower part of the abdomen was flat. He had observed this condition for some months. At the time of his telegraphing to me he was especially disturbed because the patient had that day experienced a sudden access of low abdominal pain, with a quickening of the pulse to 100, and one degree of fever, together with great prostration. He felt that she was suffering probably from a twisted ovarian cyst.[1]

I found Mrs. Booth to be an extremely difficult patient to examine, on account of her great size. Her heart and lungs were sound, the tongue clean and the urine normal, and she

seemed as a vigorous, hard-working woman, of cheerful temperament. The abdominal wall was extremely fat. A pelvic examination was almost impossible, on account of the difficulty of making satisfactory bimanual palpation. I could discover nothing that seemed like an ovarian cyst; if there were one, it was probably high and beyond reach. The uterus was in good position, small and movable. The abdomen was nowhere particularly tender, though there was somewhat more tenderness in the region of the navel than elsewhere. On palpating carefully the adipose abdomen I was able to make out, at the bottom of the umbilical pit, a distinct enlargement of the umbilical ring, and below that a mass which seemed to be an unusual accumulation of encapsulated fat. This mass protruded on the patient's coughing, while at the same time the umbilical ring filled up with extruded viscera. On percussion the whole lower portion of the abdomen was dull, in places almost to flatness.

All these findings were most unsatisfactory. I was utterly unable to form an exact opinion of the patient's exact condition, the only positive abnormality being a fairly well marked hernia at and below the navel. In view of these facts, and considering the long-continued illness, with its sharp turn for the worse, it seemed to me best to do an exploratory operation.

I operated the next day, accordingly, giving the patient the benefit of nitrous oxide and oxygen anesthesia. I opened down upon the umbilical ring and the hernia mass through a long incision, when on dissecting back the parietal fat I disclosed a clearly marked hernia, protruding partly through the umbilical ring and partly through a great split in the sheath of the rectus below it. The hernial sac contained a mass of omentum nearly as large as two fists flattened out, everywhere adherent and dragging constantly upon the abdominal contents. I removed most of the omentum, carefully tying the pedicle in sections, opened the abdomen further, returned the omental stump and explored the abdomen. I found nothing peculiar within the cavity; all the viscera were well placed and normal to the touch. Accordingly, I performed a satisfactory operation for radical cure of the hernia. The patient made a prompt

convalescence and returned home at the end of three weeks, perfectly well. She has remained well ever since.[2]

[1] The train of symptoms described is indefinite and suggests a number of disturbances. The physician's assumption that there was an ovarian cyst present was entirely reasonable, in view of the history. These cysts, as is well known, are often associated with marked digestive disorders such as the patient described. One thinks of abdominal ptosis also, though abdominal ptosis with marked dyspeptic symptoms is uncommon in very fat persons. There was nothing especial to suggest gallstones, peptic ulcer, or appendicitis. Looking at the case broadly, it seemed to be one of some digestive disorder, secondary to a probable pelvic disturbance.

[2] This form of hernia is unusual and is somewhat difficult to deal with. The ring cannot be closed in the way that one ordinarily closes an umbilical ring; that is to say, by overlapping the aponeurosis through a *transverse* incision. I was obliged to overlap from side to side; but the resulting union was sound and satisfactory.

The symptoms of omental herniæ, whether of the umbilical variety or elsewhere in the abdomen, are often puzzling and most troublesome. When incarcerated these herniæ cause a constant dragging upon the viscera, and if they do not lead to a condition of partial ptosis, cause symptoms strongly suggestive of ptosis,— the symptoms especially of some obscure digestive disorder.

Case 42. Mrs. Dixson, a Russian Jewess of forty-one, sixteen years resident in this country, consulted me on the 12th of August, 1910. Her physician stated that, in addition to her physical disablements, she was a hopeless neurasthenic. She had experienced six pregnancies in the ten years previous to my seeing her. A hard-working woman always, of fairly good heredity, she could tell me nothing important of her history before marriage. The pregnancies, however, were associated with various disorders, and she enumerated the following: failure of vision, morning nausea and headache, daily dyspnea, flatulence, a constant sense of dragging at the navel, intolerable low backache, tenderness at the hepatic and splenic flexures of the colon, chronic constipation and scalding on urination, with frequent urinary incontinence. Incidentally, she stated that in 1905 she had been operated upon at one of our large hospitals for double inguinal hernia, but that both herniæ returned within two months after the operation. She said that later she discovered a small swelling at the navel, which she supposed to be an umbilical hernia. These things would have troubled her little had not some unwise person suggested to her that she had tipping of the womb also. Since then her mental distress had outweighed her physical miseries.

Mrs. Dixson was a mild, pathetic, easily-weeping woman, in fair flesh, five feet four inches in height, worn and tired looking; her eyes were not peculiar, her heart and lungs were sound, the urine was not abnormal. On examining her abdomen I found some evidence of recurrence of the inguinal herniæ; a recurrence certainly was present; the umbilical ring was large and there was a slight protrusion there when she coughed. Her perineum was extensively torn and there was a wide bilateral tear of the cervix; the uterus was somewhat larger than normal, was retrocessed and prolapsed. Here, then, was a collection of positive physical ailments, the correction of which the patient demanded.[1]

[1] The interest in this case lies in the number of lesions to be repaired and the grave doubt as to the future usefulness of the patient, in view of her mental condition. No one of the lesions was especially serious, yet they all seemed serious

to Mrs. Dixson. Should I correct two or three of them, or should I correct them all? She knew of them all, and would be dissatisfied with a partial operation. At the same time, I greatly feared, and justly, that no amount of operating would return her to sound mental health. The problem was one such as must always test severely a surgeon's judgment and patience. Had this woman been in a different social or financial position, or had she been the victim of long-continued and futile medical treatment, I should have refused to operate at all. As it was, in consideration of her confiding temperament, her hopefulness, her insistence, and the positive need of an anatomical cure, in order that she might work for her living, I decided on doing all the operations indicated.

Having decided on operating, therefore, I gave Mrs. Dixson the benefit of a long rest in bed, careful feeding up, and regulation of the bowels. I had her anesthetized with nitrous oxide and oxygen, and found her in excellent condition on the morning of the operation. I operated as follows: 1. By dilatation and curettage of the uterus. 2. By elaborate repair of the perineum. 3. By repair of a small incarcerated omental hernia at the umbilicus. 4–5. By secondary repair of the two recurrent inguinal herniæ. 6. By suspension of the uterus. This was a long job, but the patient stood it well, and fifteen minutes after the end of the operation was conscious and in excellent spirits.

This case I have reported because it is a problem in what to do. The number of individual operations did not seem to affect materially the usual course of convalescence. The wounds healed promptly and satisfactorily. Within four weeks Mrs. Dixson went home, and has reported to me frequently ever since. She was not strong and vigorous when I last saw her, six months after the operation, but she was much better than before the operation, suffered little from any positive symptoms, and looked forward with confidence and equanimity to returning to hard work within a few weeks.

Case 43. An unusually interesting problem in abdominal disease was that of Mrs. Marion, a woman of thirty-seven, living in a town near Boston, to whom I was called in consultation on the 3d of September, 1905. She was three years married, but her previous history had been somewhat stormy. When eighteen, and before the days of antitoxin, she suffered from a severe diphtheria, which was followed by many months of " nervous breakdown " and disease of the nasal passages. This nasal disease persisted so that when I saw her there was present an active ulceration of the septum, with perforation. She had long been subject to severe frontal headaches and to frequently recurring attacks of biliousness, with the usual associated chronic constipation. Seven weeks before I saw her she was confined at term of a macerated fetus,— her only confinement. Her convalescence was slow; after four weeks she was curetted for a septic infection of the uterus, with a temperature rising to 102°–3° and incessant nausea and vomiting. After the curetting this attack subsided. Some ten days later, or about ten days before my visit, she had another attack of nausea and vomiting, lasting six days. From this again she recovered. It was not apparent that this second attack of nausea and vomiting was associated with the first, but the presumption is that it was so. Six days before I saw her she had so far recovered as to be feeling confortable on a liquid diet.[1]

In the interval between the two attacks of nausea and vomiting Mrs. Marion was seen by a well-known Boston internist, who was said to regard the condition as one of intestinal indigestion. Six days before my visit, after a slight increase in diet, the patient's nausea and vomiting returned, with alarming prostration. At that time her regular physician was away on his vacation, and she was seen by my immediate consultant. He reported that at the time of his first visit her temperature was 102°, pulse 114, and respirations 22;

that she was having two or three attacks of vomiting daily; that she had "resistance" in the right hypochondrium; and that there was a slight mitral systolic murmur at the heart apex. The urine showed a trace of albumen; it was concentrated and there were a few hyaline casts; there had been no improvement during the two days preceding my visit.

On examining Mrs. Marion, I found her to be a rather slight but well-developed, intelligent woman, looking much younger than her years. She was flushed, with a temperature of 103°, a dry, coated tongue and an appearance of anxiety. The heart was slightly enlarged and there was present a systolic mitral murmur. The abdomen, however, was the seat of special interest. I examined first the pelvis, and found the organs there to be well placed and in excellent condition. The whole abdomen was slightly distended, tympanitic and somewhat rigid; there was tenderness over the whole colon and marked tenderness at McBurney's point; the right rectus was held tense and there was spasm throughout its extent; the liver dullness was much increased, descending to within two inches of the navel, while the epigastric region and the region of the liver were intensely sensitive to examination; there was no jaundice, the bowels were moving fairly well; there was a constant slight nausea, however, and the associated distaste for food.[2]

In view of the patient's prostration, and her fever, coupled with the evidently acute infection of the bile passages, it seemed best to me to employ palliative measures for a day or two longer. The internist who had seen Mrs. Marion before me visited her again on the day of my visit, and urged strongly the unwisdom of operating.[3] I saw her again on the next day, when I found her condition little changed — certainly with no sign of improvement. I should have operated on that day had I not been overruled by my consultants. On the next day, however, as no improvement had occurred, and the situation had become distinctly alarming, I felt that bile duct drainage was imperative, if the patient's life was to be saved. Accordingly, I operated, and quote the following statement from my notes: "On opening down upon the bile passages I found slight adhesions about the gall bladder, though the

stomach and duodenum were not involved. The bile passages were thickened also, and were easily palpable. The left lobe of the liver extended to within two inches of the umbilicus. The appendix was found to be covered with slight old adhesions, the organ itself five inches long, kinked at its middle, thickened and injected.

I removed the appendix, which was catarrhal, its mucosa studded with minute hemorrhages. I opened the gall bladder and passed a probe readily into the common duct, meeting with no obstruction; no stones were there; the gall bladder was somewhat thickened and its mucosa deeply injected; there escaped thin black bile; unfortunately, no cultures were taken from this discharge. These findings confirmed the diagnosis of cholangitis. The liver was not peculiar, save for its considerable increase in size. I performed cholecystostomy, draining the gall bladder through a stab wound.[4]

[1] Mrs. Marion's history since her confinement is somewhat confusing up to this point. When unraveled it appears to contain the following incidents: (1) An infection of the uterus, for which she was curetted three weeks after confinement; (2) shortly after that an attack of nausea and vomiting; (3) ten days later a second attack of nausea and vomiting. One must endeavor, if possible, to distinguish the attack of nausea and vomiting from the puerperal condition, although the latter may have had to do with the development of the former. Nausea and vomiting, of course, are not uncommon during the puerperium, and are usually associated with an infection. On the other hand, the fact that Mrs. Marion had long been subject to " bilious attacks " may be regarded as a primary factor in her recent disorders. One must consider further the bearing of the old diphtheria on the situation. Had it not been for the history of a definite diphtheria, one would suppose that her perforated septum and her bearing of a macerated fetus were indications of a syphilis. A careful study of the case, however, eliminated that possibility.

[2] The conditions I have described enabled us with fair assurance to rule out a number of suggested disorders; the enlargement of the liver, especially, being significant. Gastric disease was improbable, as the vomiting had not been characteristic of either ulcer or gastritis; there was no excess of hydrochloric acid in the vomitus; the symptoms were not severe enough to suggest acute pancreatitis; the kidney was not

palpable, and the urine did not indicate a severe disease of that organ, certainly not a suppurative process. There remained, therefore, as the two most probable conditions, a sub-acute appendicitis and some derangement of the liver and bile passages. We talk about perihepatitis and general diffuse inflammation of the liver; these conditions are commonly associated with infections starting either in the appendix or bile passages; the condition of the heart, too, might well have some bearing upon the enlargement of the liver. Doubtless there was present some of that intestinal indigestion which the previous consultant had stated to exist.

[3] Operations on the bile passages, in the face of acute cholangitis, should be avoided or delayed so far as may be. These acute infections usually subside, when natural drainage is established through the passages into the duodenum. Operation in the face of an acute cholangitis is a grave undertaking; it is difficult to isolate completely the infected passages, when open, from the general peritoneal cavity, so that drainage of these passages is not infrequently followed by an ugly, and even fatal, peritonitis. The procedure of choice is to wait for subsidence of the attack, and then to explore and to establish drainage for a permanent cure.

[4] In the face of such an infection as I have described, drainage of the gall blader is the one and only proper operative procedure. It is relatively safe and in the long run it is curative. I cannot too strongly deplore the frequent custom of terminating such drainage after three or four days. The main purpose of the drainage is to allow the infected passages to quiet down and recover completely. This can be accomplished best by maintaining drainage for several weeks even, if necessary.

Mrs. Marion showed signs of collapse while still on the table, but after being put back to bed she rallied well, and her pulse during the day dropped from 140 to 106. Greatly to my satisfaction, she made an excellent recovery. On the third day her temperature was running normal, with a pulse well under 100. For many days she drained by the tube about eight ounces of bile daily, and it was not until three weeks after the operation that I thought it wise to remove the tube. The tube sinus closed within twelve hours, as it usually does when drainage has been effective and infection and inflammation have subsided. At the end of a month Mrs. Marion was up and about, and improving rapidly. I followed her for two years,

and was constantly interested to learn that she continued in sound health. I am convinced that without a drainage operation she would have died.

Case 44. Mrs. Charles Gong was a strong, active woman until she was prostrated by illness at the age of sixty-one, when first she came under my observation. This was on the 12th of December, 1905. She had been married for nearly forty years, and had borne four children: the youngest was twenty years old. From each one of her confinements she recovered well, but as she advanced in life she complained of symptoms which suggested some pelvic disorder,— frequent, distressing, low backache; incontinence of urine; obstinate constipation; indefinite, low abdominal pain; much flatulence and occasional distress immediately after eating. At the age of forty-one she noticed obscure discomfort in the right side of the abdomen, some tenderness up and down the right side when she drew her corsets tight, occasional unexplained attacks of nausea and frequency of urination. This increased disturbance had lasted about a month, after which she went on as before, regarding herself as an unusually vigorous, though not necessarily an unusually well, woman. In September, 1905, three months before I saw her, she had a sudden unexplained attack of epigastric pain, with vomiting and purging, the attack lasting about six hours, and again three weeks later she had similar attacks.[1] Three days before my visit Mrs. Gong was suddenly stricken with another acute attack of pain in the right hypochondrium, with vomiting, but this time with constipation — no movement of the bowels for three days. On the next day there was nausea, but no vomiting, the pain continuing. On the next day, the day before I saw her, the nausea ceased, but almost simultaneously a marked jaundice suddenly appeared, while the pain gradually diminished and disappeared. After this throughout the day her condition continued relatively good, and all anxiety on her account subsided. On the day of my visit, however, and four hours before I saw her, a sudden alarming collapse supervened; her temperature shot up from 100° to 103°, and her pulse rose to 140; after an hour there was improvement. No pain, nausea or intestinal disturbance apparently were associated with this collapse. The temperature gradually fell and the pulse fell, so that when I saw the patient her temperature was 98.8° and her pulse 92.

My examination revealed a large, robust, flushed-looking woman, distinctly jaundiced, with abdomen somewhat distended, very tender in the epigastrium and right hypochondrium, excruciatingly tender over the gall-bladder region and down towards the appendix; up and down the right side the skin felt doughy, while an obscure mass the size of a fist could be made out, indistinctly, below the margin of the ribs and apparently connected with the liver. The chest was negative. The urine, aside from containing bile, was not peculiar. An examination of the pelvis disclosed a somewhat enlarged retrocessed uterus and an extensively torn perineum, but this pelvic condition did not enter into our consideration.[2]

I felt justified in concluding that Mrs. Gong was suffering from an acute attack of cholangitis, associated with gallstone obstruction,— obstruction, doubtless, in the common duct. On account of the acuteness of the situation, I recommended delay for a few days until conditions should more nearly approach the normal, and then to seek permanent relief by an operation. The patient rallied well after my visit. A week later her temperature was running normal, her jaundice had disappeared and she was feeling comfortable.

I heard nothing more from her for six months, when she applied to me for an operation, at that time being apparently in perfect health. On my examination then I could find little except some obscure resistance in the region of the gall bladder and some slight tenderness there. I operated on the 22d of June, 1906, readily exposing the gall bladder, which was about the size of a goose egg, and when opened found to contain twenty-three faceted stones, each about as large as a chestnut. The ducts lower down were free, as I demonstrated by forcing water through the common duct into the duodenum. There was nothing further of significance to be found in the abdomen. The patient rallied well, and three weeks later went home. She has remained in excellent health.[3]

[1] Up to this point in the patient's history we can lay our finger on nothing definite to explain the epigastric pain, the vomiting and the purging, though we may inquire more particularly about the nature of those symptoms. The epigastric

pain is said to have come on with great violence about an hour after taking food, and once in the night, several hours after eating, in which case it passed off gradually, not suddenly. The vomiting was associated with extreme nausea and retching, and did not relieve the pain. There was no blood in the vomitus. The purging occurred some hours after the attack of pain and vomiting; there were three or four profuse, watery discharges, after which the bowels returned to a natural condition; there was nothing in the discharges to suggest hemorrhage; in this connection I note that careful examination of the vomitus and of the stools failed to discover occult blood.

[2] Were it not for the jaundice the diagnosis would be obscure, and even with the jaundice the diagnosis is not altogether clear. One thinks of acute appendicitis, with complications (subphrenic abscess), or one thinks of acute disease of the bile passages, superimposed upon an old chronic cholangitis, with gallstones or of acute pancreatitis. Acute bile-passage disease is far the more probable, in view of the jaundice. On the other hand, in view of the patient's age and the long continuance of her symptoms, dating back altogether twenty years, it is within the realm of probability that she may have primary malignant disease, with consequent obstruction. The main argument against the latter diagnosis is the intensity of the pain and the gravity of the symptoms. The pain of malignant disease of the bile passages is not especially severe, while the onset of the disease is slow and the jaundice gradually progressive. In malignant disease, moreover, one would not expect so startling a collapse, with so pronounced a rise of temperature and pulse.

[3] The important teaching of this case is the wisdom of waiting for subsidence of acute symptoms before operating in gall-bladder disease. Nearly all of these acute cases will improve and return essentially to the normal; then is the time to operate — between attacks. An operation done during the height of an attack is undertaken with considerable risk to the patient, risk of collapse and risk of infection.

Case 45. Francis Allen, a prosperous farmer living near Boston, had been well known to me since his boyhood. He was a vigorous out-of-doors man, always apparently in the best of health, though given somewhat to the constant use of alcoholic stimulants. At the age of thirty-five he contracted syphilis, for which he was thoroughly treated and from which he recovered. After that he married, and had two healthy children. At the age of forty-one, on the 30th of August, 1905, he consulted me for the ailment I am about to report.

He stated that for the past ten days he had suffered from frequent distress in the right side of the abdomen, not positive pain. He said he felt poorly; he had no nausea, but a fair appetite and regular bowels. There was no jaundice.

I found his head, eyes, skin, throat and nasal passages in good condition, and his chest not abnormal; his temperature was normal, his pulse 72. I could make out no abdominal tenderness, but the abdominal wall was extremely thick and resistant. A rectal examination was negative. This patient was a short, stout, thick-set man, weighing about one hundred and sixty pounds, clear-eyed, alert, highly intelligent. I got little out of the story, and could not but suspect that he might have a gumma of the liver, for it was in the region of the liver that his pain was said to reside.

These various symptoms continued for several days. On the 4th of September I discovered a slight mass in the region of the appendix. Three days later this mass had disappeared, but he complained of shifting pain in the right hypochondrium. Four days later again this pain was present and there was tenderness in the region of the gall bladder. About that time I began talking to Mr. Allen about an operation, to explore the gall bladder and the appendix, but he scouted the idea. I kept him quiet, on a limited diet, with occasional doses of Carlsbad salts, and so he worked along, keeping about and not especially uncomfortable. My notes of the case are long and rather uninteresting, running on with almost monthly entries for about a year, the general summary being that this patient had quite constant sensations of distress and occasional pain or burning in the region of the gall bladder, frequently relieved by Carlsbad salts; that on two or three occasions during this

year he had distinct pain and tenderness in the region of the appendix, and that almost invariably, whenever I saw him or talked with him, he confessed to a sensation of tenderness in the epigastrium and right hypochondrium. During this period I had him see consultants also, who agreed that he was suffering from some obscure ailment of an infective character, but they were unable to make a positive diagnosis. Sometimes he would have a slight rise of temperature to 100° or 101°; on two different occasions he went to the Virginia Hot Springs, but without effect, except to have his head filled with pathologic and therapeutic clap-trap by friends he made there. On the 30th of August, 1907, after affairs had gone on in this way for about a year, Mr. Allen's physician in the country was called to him at midnight. He found the patient in the midst of an acute attack of appendicitis; very tender over the appendix, with spasm of the rectus; temperature 101°, pulse 96. These symptoms subsided entirely on a course of starvation treatment.[1]

I now felt myself justified in urging upon Mr. Allen the imperative necessity of an exploratory operation. I had watched him for more than a year, and I saw no prospect for him except permanent invalidism, unless something radical were done. He consented. In view of the twofold nature of his symptoms, I determined on a double operation. I opened down first, through a small incision, upon his appendix, which I found kinked, adherent and injected; I removed the appendix accordingly; the evidence of a chronic appendicitis was clear. I then explored the epigastrium and right hypochondrium, through a separate incision. I found the gall bladder of normal size, thin-walled, full of a rather pale bile; there were no stones in the gall bladder, nor were there stones in the bile passages. On exploring further, however, I discovered the head of the pancreas to be hard and to contain a mass which felt about as large as a hen's egg,— chronic pancreatitis.[2]

[1] The experienced reader may well have drawn his own conclusions by this time regarding the ailment from which Mr. Allen suffered. He was now forty-two years old, and had had a series of distinct attacks of pain, limited to two distinct regions. One talks knowingly, then, of appendicitis

and of gallstones, and reasonably. These two conditions are frequently associated, sometimes because of an extending infection, sometimes coincidentally. A life-long habit of alcoholism is thought by many physicians to be conducive to both ailments.

[2]The ordinary cause for chronic pancreatitis is looked for in some obstruction of the pancreatic ducts, or of the common duct, or of the ampulla of Vater. In Mr. Allen's case it is probable that his habits of life and his former syphilis led to a chronic obstruction at the ampulla. Failure to find disease of the bile passages, after such a history as I have given, should surprise no experienced surgeon. A long-continued cholangitis may well give rise to a chain of symptoms suggesting gallstones, even though no gallstones be present. In operating upon the bile passages I always warn the patient and his family that gallstones may not be found, but that proper drainage of the bile passages in any case is essential.

The treatment in this case was obvious, — drainage of the bile and pancreatic passages. This drainage is easily secured and maintained through cholecystostomy,— a tube sewed into the gall bladder. Accordingly, I carried out this treatment, draining the gall bladder by a tube through a stab wound about two inches to the right of the principal incision, which was sewed up tightly.

Mr. Allen rallied promptly from his operation, and went on to a complete recovery. His appendix symptoms disappeared, of course, while, much to my relief and to his own satisfaction, his epigastric disturbance never returned. The drainage was carried on for three weeks, when the tube was removed and the sinus allowed promptly to close. He recovered his health perfectly in the course of six weeks, and has been sound and vigorous ever since.

Case 46. Occasionally it falls to the lot of every surgeon to operate on a patient devoid of what we call "resisting powers." Probably a careful study of the opsonic index would give us some light on the prognosis for operating, but in spite of such aids, and in spite of "low vitality," we are frequently forced to operations which we would gladly avoid.

The case of Mrs. Orr is in point. She was forty years of age when I saw her on the 15th of December, 1908; the mother of three children, her health had always been good up to the preceding August. She was indeed peculiarly free from the ailments common to overworked married women. Though never extremely robust, she had always regarded herself as well. She had suffered from none of the serious infections which commonly lower resistance; nevertheless, she was one of those persons of whom the family physician says that she is a poor surgical risk. When I was called to see her in consultation in December I heard the following story of the previous four months, beginning with the 20th of August:

She had had twelve attacks of pain, at intervals of a week or more, in the right hypochondrium; the pain would come on suddenly, and would last from six hours to three days; it was always excruciating and abated slowly; it seemed to be brought on by exertion; it was not associated with nausea, vomiting or irregularity of the bowels; it left the patient exhausted; at no time during these previous attacks had jaundice been observed; during the period of these attacks Mrs. Orr had lost twenty-five pounds in weight. My consultant informed me that the present attack had lasted two days when I was called, and was still in progress. The pain came on in paroxysms and was agonizing, requiring half a grain or more of morphia to quiet it; then would succeed remission, followed by another paroxysm. For twenty-four hours this patient had been growing yellow, the conjunctivæ and skin being obviously stained. The pain was beneath the right costal margin, in the neighborhood of the gall bladder, but shot through also to the right scapular region.[1]

Mrs. Orr appeared as an intelligent woman, abnormally thin and haggard. Examination of her abdomen was easy. In the region of the gall bladder there was a tender mass,

apparently about the size of a Bartlett pear. It could be grasped between the hands in front and back, but did not suggest a kidney in size or position. There was also exquisite tenderness in the epigastrium, along the course of the bile ducts. The patient was markedly jaundiced, while her scanty urine contained bile and albumen.

This is the sort of case which in my judgment should be treated on the expectant plan. The profound prostration, associated with jaundice, renders grave the outlook for an immediate operation; one fears shock, pneumonia and hemorrhage, hemorrhage especially, as bile in the blood delays coagulation often for ten, or even fifteen, minutes.

One week later Mrs. Orr's condition had improved very much; her jaundice had practically disappeared, pain had ceased and she was feeling well and happy, though she had by no means regained her normal strength. I then operated, and found a condition which I had not foreseen; the enlarged gall bladder was there, larger than I expected; it was greatly thickened, but its capacity was not much more than the normal; the cystic duct was nearly obliterated; beyond the cystic duct I could feel nothing; the common duct seemed to be normal and to contain no stones; the head of the pancreas and the ampulla of Vater were normal to the touch.[2]

[1] Be it remembered that the radiating pain due to gallstones in the gall bladder is towards the right shoulder, but the radiating pain due to gallstones in the common duct is towards the back and scapular regions. This last phenomenon in the case of Mrs. Orr, associated as it was with jaundice, made reasonably certain the diagnosis of obstruction to the common duct.

[2] How shall we explain the recurring jaundice, the obvious obstruction to the common duct, the pain radiating to the scapular region, the greatly thickened gall bladder, showing a disease of many years standing probably? The pathological history of Mrs. Orr probably was something quite different from the clinical history, and I doubt if the family physician or I myself pursued our clinical investigations far enough. Chronic inflammation of the gall bladder and passages often exists for months and years without giving rise to the clinical symptoms of gallstones. Patients suffering from such chronic disease become dyspeptics, with small appetites, with flatulence, constipation, headaches, and more or less nausea, while

their vigor is diminished, and they sink into a condition often of obscure, chronic invalidism. Such a state of affairs, however, is not always present with a chronic inflammation of the gall bladder. The symptoms and the condition vary within wide margins. Evidently Mrs. Orr was able to lead her life and perform her usual work without much disturbance from her gall-bladder disease. The sudden increase of symptoms, associated with great pain and prolonged prostration, may have been due either to the collecting of small stones in the common duct, which were from time to time passed on into the duodenum, or to extensive adhesions, grasping and partially obstructing the common duct,— adhesions due to the disease of the gall bladder. My conviction is that this last explanation will satisfy us in the case of Mrs. Orr. Nowhere could I find evidence of stones, either in the hepatic radicles or in the common duct.

The further procedure in this case was obvious,— removal of the gall bladder. Drainage of such a diseased organ would be absolutely useless; it would fail to remove the symptoms and it would put no limit to the disease; cholecystostomy, or drainage, is applicable to gall bladders of a more nearly normal structure; conversely, cholecystectomy, or removal of the gall bladder, is dangerous, not so much from the nature of the operation itself as because cholecystectomy is called for in cases of severe advanced disease generally, in which any operation is serious. In the case of Mrs. Orr we see repeated the grounds for the old argument that gall-bladder disease should not be allowed to go on indefinitely, but should be terminated by operation, if the chronic inflammation has become fixed and troublesome. I removed the gall bladder and drained carefully the whole area, stitching with fine gut a tube into the stump of the cystic duct. In spite of our speed and great care, however, the patient fell into a condition of profound shock, and showed little tendency to rally after her ether, in fact she never rallied. She recovered consciousness, but the next day her pulse was small and thready, with a rate of 140. So she continued for three days. There was slight but persistent nausea but no abdominal distention, and the bowels moved well. We did all in our power to overcome the shock,— by transfusion, by posture, by carefully employed doses of

strychnia, but all to no purpose; she failed gradually and finally died in shock.

One reports such a case as this with hesitation and regret, and one asks, What lesson does it teach? I believe it does not warn us against operating in these desperate cases. It was clear to all of us concerned that without an operation at the appropriate period Mrs. Orr could live but a short time, and that the balance of her life would be one of the utmost wretchedness. As I review the case, I feel that our only mistake was in operating within a week of a serious attack of pain. If she could have been carried on to a state of better health, it is possible that an operation a month later would have been successful. All this is hypothetical, however, for in fact her attacks of pain were coming on at intervals of about ten days. The case is certainly worthy of study and discussion alike by general practitioners and by surgeons.

Case 47. A well-known and competent internist asked me to see Mrs. Nathan O'Nutt on the 3d of December, 1906. This physician had known the patient and her family for several years, and had followed with solicitude her various ailments. When I first saw Mrs. O'Nutt, she was sixty years of age. She had borne three children, who were grown. She had been in ill-health for many years. I doubt if she had ever been strong, for she belonged to that type which we have come to regard as typical sufferers from abdominal ptosis,— long-waisted, with a sharp declination of the floating ribs and an extremely short space between the ribs and the iliac crests (costo-iliac space). While there was nothing of special significance in her past history, I learned that she had always been a dyspeptic and had suffered much from sundry pains in the abdomen, chest and limbs, especially pain in the left chest, which suggested zoster. Her dyspepsia had not been of a characteristic type; she told merely of some distress at varying periods after eating, of chronic constipation and of indefinite abdominal pains; her appetite had been small for many years, and she was not aware of having lost flesh recently. Her physician told me that he regarded her for years as a " nervous dyspeptic," who must be patched along in some way. He stated further that two weeks before I saw her she had had a moderately severe attack of pain in the epigastrium, which was relieved by a sixth of a grain of morphia, after six hours; again a week before I saw her she had a similar attack, and another after four days; this last was associated with nausea and constipation. There had been no vomiting, no jaundice and no fever. He reported the urine as not abnormal.[1]

[1] Up to this point the history suggests disease of the gall ducts; especially we note the characteristic epigastric pain recurring with nausea, added to the long history of " nervous dyspepsia." A physical examination, however, threw some surprisingly new light on the case.

I found Mrs. O'Nutt to be a tall, thin, emaciated woman, with a scaphoid abdomen. I could make nothing out of the chest or pelvis; there was no tenderness in the epigastrium. On palpating bimanually in the right flank, however, I en-

countered at once a mass on a level with the navel and in the vicinity of the kidney — a mass about the size of a man's fist, movable, tender, hard, apparently associated with the right kidney; it could be felt readily by the left hand palpating the loin. In spite of the negative evidence obtained from the urine I concluded that we had to deal with a tumor of the kidney, presumably sarcoma, — not hypernephroma, as hypernephroma of long standing and considerable size is almost invariably complicated by metastases in some of the long bones, notably the clavicles. Accordingly, I advised an exploratory operation, with a view to removing the kidney.

Two days later I operated, cutting down upon the right kidney through the loin. Somewhat to my surprise, I found the kidney in normal position, though it was distinctly movable up and down, but it was in no way diseased; indeed, it was a small kidney, and not peculiar in appearance. Lying upon it, however, so as to form with it a single mass apparently, there was felt a distinct tumor which could be moved easily up into the epigastrium, leaving the kidney in its place. Enlarging the opening in the loin, I then exposed the peritoneum, entered the peritoneal cavity and sought the second tumor, which proved to be an enlarged gall bladder, distended to the size of a child's fist and extremely motile. I opened the gall bladder and explored the ducts. The gall bladder was not especially peculiar in appearance, except that it contained a huge calculus, molded almost exactly to the shape of the gall bladder, with a pedicle running down into the cystic duct. By the side of this calculus lay another small stone, faceted and about the size of a filbert. The larger stone, when removed, seemed to be of enormous size, and was actually about as large as an average hen's egg. I drained the gall bladder through a stab wound.

The patient made an excellent recovery. On the removal of the tube, at the end of ten days, the sinus closed promptly, and the subsequent convalescence was uneventful. I was interested to follow the subsequent history of Mrs. O'Nutt. One year after the operation she came to see me, feeling well, but complaining that she had an occasional soreness in the right side. On examining her carefully I discovered that the right

kidney was still movable, and traveled up and down the abdomen with the greatest freedom. A well-fitting corset-belt relieved this trouble, and I am now told that the patient is in better health than for many years past.

The case is interesting from the point of diagnosis. The physician who operates infrequently, or seldom sees post-mortem examinations, is apt to forget that the right kidney lies high behind the duodenum and in fairly close relation with the gall bladder normally. For this reason, when investigating digestive disorders, and especially disorders associated with pain in the epigastrium, one should always bear in mind the possibility of some disease of the kidney; furthermore, when a right kidney is motile and moves readily up and down the right side, one should remember that it does not necessarily escape from its proximity to an enlarged gall bladder, which, when weighted with stones, may well follow a kidney down into the loin.

Case 48. The case of Matilda O'Brien, though not unusual, was interesting and instructive. I was asked to see her in January, 1910, and was told the following story: The patient said she was forty-eight years of age; she appeared to be sixty-five. She was housekeeper for a gentlemen well known to me, who regarded her almost as a mother and showed the greatest solicitude for her comfort. She had always been an active, hard-working woman. Her previous history was excellent. She was said to have passed the menopause two years before. Her present illness was thought to run back some six months. In July, 1909, she first consulted the physician who called me in. She went to see him regarding certain dyspeptic symptoms, loss of appetite especially, and distress immediately after food. He found that the distress was easily relieved by alkalies. He treated her expectantly, therefore, for about three months, when there was noticed, suddenly, jaundice, developing, apparently, in twenty-four hours. There was no pain then or at any subsequent time; there was no abdominal tenderness; the principal and almost the only complaint was loss of appetite. My consultant, at first, sent Miss O'Brien to a nearby hospital, where she was dieted for a month, without special change in her condition. She then came home, where she had lain in bed for the three weeks previous to my visit, and was said to be a good deal improved over her state of three months before. Though her appetite was small, she had ceased to lose weight; she had no pain, no fever, indeed no symptoms whatever, except the anorexia and the persistent jaundice which had lasted now for three months.[1]

On examining this patient I found her to be an extremely emaciated, but placid and contented, old-looking woman, thin and wrinkled. Her tongue was moist and slightly furred, the conjunctivæ and skin were markedly jaundiced, the jaundice being almost lemon yellow and said not to vary in character from month to month. The urine was loaded with bile. I could feel nothing wrong in the pelvis or abdomen except a slightly enlarged liver; the heart and lungs were not peculiar; there was no tenderness anywhere; indeed, there were no other physical signs. I was informed that other surgeons had seen this patient, and their opinion was that she was suffering

from malignant disease of the liver. That diagnosis was my own also, but I told the patient's employer that we could not rule out the possibility of a chronic pancreatitis. When pressed to suggest a remedy, or some method of relief, I could only say that I regarded an exploratory operation as justifiable. Of course nothing could be done for a cancer of the liver, but it might be that chronic pancreatitis alone existed, in which case drainage of the bile ducts by cholecystostomy, or possibly a permanent drainage by cholecystenterostomy, might be of service.

Accordingly, I had the patient transferred to a hospital, for observation; especially, I wished to note the clotting time of the blood. In the face of the persistent jaundice, I was sure that a present operation would be complicated by troublesome or possibly fatal hemorrhage, and I wished, if possible, to eliminate this contingency.

At the time of her entering the hospital Miss O'Brien was examined by Dr. Cleaveland Floyd, who made the following statement regarding her blood: "The coagulation time is about twelve minutes; hemoglobin 60%; red corpuscles 3,576,000, whites 6,200." The further analysis I omit, except to state that blood platelets were increased. In order to shorten the coagulation time, I immediately put the patient on 5-grain doses of thyroid extract, given twice a day. She took this remedy for nine days, at the end of which time Dr. Floyd examined her again and made the following report: "Coagulation began at the end of two and one-half minutes, and was well marked at the end of five and one-half minutes; blood of better consistency than when examined ten days ago, and serum ring less marked."[2]

During this period of rest at the hospital the patient was happy and comfortable, and her appetite improved somewhat. Three days after Dr. Floyd's last report I operated, by a short incision through the right rectus muscle. Immediately on opening the abdominal cavity I exposed a liver enlarged and studded with characteristic nodules of cancer. I carried the exploration no further than to determine that the gall bladder was full of stones and that a definite mass, malignant to the feel, existed in the pylorus. The obvious diagnosis was, there-

fore, cancer of the liver, probably secondary to cancer of the pylorus.[3]

[1] A history of chronic jaundice and loss of appetite alone, associated with the inevitable emaciation, suggests first malignant disease of the liver, presumably primary. Nearly all other causes of jaundice are associated with pain, of varying degree, especially inflammatory disease of the ducts, with gallstones. Catarrhal jaundice is an acute and relatively short affair. Chronic inflammatory diseases involving the liver tissue itself, while causing jaundice, cause evidence of portal obstruction also, but there was no such evidence in the case of Miss O'Brien. A chronic pancreatitis is evidenced by a thickening and hardening usually of the head of the pancreas and a compression of the common duct, which in the great majority of cases passes through the head of the pancreas.

[2] This shortening of coagulation time by the use of thyroid extract has been a favorite method with me for some three years. In my experience it is more certain and more quickly effective than the calcium chloride and calcium lactate treatment, and more certain though not always so promptly apparent, as the sera treatment. A blood coagulating in twelve minutes may well threaten troublesome and obstinate hemorrhage; a blood coagulating within five and one-half minutes is within normal limits.

[3] After an exploratory operation which discloses malignant disease our endeavor must be to get the patient up and about again as quickly as possible. To this end we explore through a small incision, and close the incision subsequently with through-and-through stitches not involving the skin, stitches preferably of silkworm gut, or even of silver. A patient in fair vigor may then be gotten out of bed at the end of three or four days, and may be sent home at the end of a week or ten days.

Miss O'Brien went home in good condition, and lingered on for some four months in comfort; eventually she died of exhaustion. The lesson from this case rests in the difficulty of positive diagnosis and in the fact that a delayed blood coagulation time may be shortened by the use of thyroid extract. Miss O'Brien was not particularly disturbed by the brief operation; the diagnosis was positively settled; and her friends, if not herself, were given the melancholy satisfaction of knowing the inevitable outcome of her illness.

Case 49. Mrs. Jacob Schneider had been married sixteen months when I was called to see her on the 22d of February, 1906. She was then twenty-four years old, and was the mother of a child six months old. She had reasonable health during her girlhood, though she had always suffered somewhat from painful and irregular menstruation, from "acid stomach" and from constipation. Immediately after her marriage she developed a train of symptoms suggesting syphilis,— sores on various parts of the body, skin eruptions, some falling of the hair and frequent headaches. So far as I could ascertain, however, these symptoms disappeared in the course of two or three months without treatment, so that their exact nature does not appear. She and her husband were rather ignorant people, and their story was not altogether coherent. Her baby was born at term, and was a vigorous child, without evidence of a specific infection. Four months after her confinement Mrs. Schneider began to have regular menstrual periods, which continued. Her last period, two weeks before my visit, was in no way peculiar. After the birth of her child she gained in weight and her general health improved, so that she regarded herself as very strong and well. Twenty-four hours before I saw her, while about her housework, she was seized suddenly with severe general abdominal pain, agonizing, prostrating. She was carried to bed, and had lain there in great distress ever since. During this period of hours her bowels had not moved, in spite of frequent enemata. Her physician, who called me, stated that her condition had not given any anxiety until within an hour. Within the hour however, there had come on a sudden extreme collapse, so that the patient became apparently moribund, with a pulse of 150. With this collapse there appeared a trifling hemorrhage from the uterus;[1] abdominal distention also had come on in the past hour, so that the abdomen was unnaturally full and tympanitic. He stated that on examining the pelvis bimanually he

could find nothing abnormal, that the uterus was small, movable and in good position, but that the abdominal tenderness prevented his making a satisfactory examination.[2]

I saw this woman, as I have stated, twenty-four hours after the onset of her serious symptoms. I found her in such collapse that a thorough examination was impossible. The abdomen was everywhere exquisitely tender, especially in the right ovarian region; she was greatly distended and tympanitic, the right rectus being rigid and in spasm. Owing to her pain, tenderness and collapse I could make out nothing by a pelvic examination. Her temperature was 99.6° and her pulse 140; leukocyte count, 15,000.

I transferred her safely and quickly to a neighboring hospital, and proposed a rapid exploratory operation. This was not at first consented to, until another surgeon had seen her in consultation. One of my colleagues was therefore summoned, who regarded Mrs. Schneider's state as extremely desperate, too grave for any operation. Accordingly, we delayed for an hour; at the end of that time the patient's condition had improved somewhat, and we agreed that an exploration was feasible.[3] I quickly opened the abdomen through the right rectus muscle, and discovered the belly full of clots and fluid blood. Rapidly turning out some of this material from the pelvis, I found the right tube extensively ruptured,[4] but not bleeding. A small fetal sac one inch long lay by its side. I quickly tied off the tube, turned out the clots, washed out the abdomen with hot salt solution and got the patient back to bed in a very few minutes. The uterus was movable and in good condition, the left tube and ovary were normal. After a stimulating infusion of hot salt solution the patient rallied satisfactorily, and went on subsequently to a good convalescence. At the end of two weeks she was discharged, well.

[1] The main features in the history up to this point are the agonizing pain and the profound collapse. Sudden, overwhelming, agonizing pain in the belly is due commonly to the rupture of some viscus. The perforation of a duodenal ulcer causes overwhelming pain, though the collapse in that case is not great at first. The pain and collapse of pancreatic

apoplexy are overwhelming. Rupture of the bowel causes great pain, as does rupture of the stomach, though the pain is not profound always. Perforation of an appendix is often followed by relief of pain, and the collapse of appendicitis is slow. In other words, profound collapse immediately associated with pain signifies almost always a hemorrhage. There are two conditions which invariably present the picture of pain and collapse which I have drawn,— the rupture of an extra-uterine pregnancy and pancreatic apoplexy.

[2] The uterus of extra-uterine pregnancy is not commonly normal in size. The careful investigation of such a pregnancy should demonstrate a somewhat enlarged uterus, boggy, with a mass to be felt at its side in the position of one or the other tube. Moreover, a woman the subject of extra-uterine pregnancy will almost always describe some slight irregular flowing.

[3] The question whether or not to explore in the face of the extreme collapse of a ruptured tubal pregnancy is not altogether settled. Formerly there were those who urged immediate operation, and there were those who opposed such action, and would wait until the patient had rallied from her hemorrhage. I believe that most experienced surgeons to-day would follow the course we adopted, being guided by their own judgment. No man would operate on a moribund patient; at the same time, the danger of recurring hemorrhages is too great to permit of *long* delay. It is my habit, therefore, to wait for a short time, without giving stimulants, merely allowing the patient to rally from her lowest point. I do not dare even to try the expedient of using the pneumatic suit, or bandaging the limbs, as that course of treatment has been known to start up fresh hemorrhage; nor is transfusion permissible at this time; transfusion is a life-saving proceeding, however, if the patient fails after the tube is tied off and the source of hemorrhage is controlled.

[4] Tubal pregnancy is terminated commonly in one of two ways, either by tubal rupture or tubal abortion, tubal abortion being the more common. Tubal rupture, however, is common enough, and is the source of the most extensive tearing, hemorrhage and collapse. Frequently tubal rupture gives warning of its onset by irregular pains, by causing a sense of faintness, and by an associated slight hemorrhage from the uterus. If the patient has her wits about her, and realizes that something is going wrong, she may call a physician so early that a prompt operation will save collapse, with its frightful consequences. Usually, however, the patient disregards these slight things, thinking them to be merely the

inevitable symptoms of early pregnancy. Looked at broadly, tubal pregnancy need not to-day be regarded as the frightful and almost fatal accident that we once regarded it. Often it can be diagnosticated before rupture, and even after rupture our present knowledge of technique generally enables us to save the life of the victim.

Case 50. On the 14th of August, 1906, I was called to see a young widow, thirty years of age, whose husband had been three years dead. Her physician told me that she had been flowing severely for three days, and had passed a fetus, which he took to be six weeks old. I curetted her and she recovered promptly and soundly.

Some six months later, in January, 1907, I was called to see her again, my telephone informant stating anxiously that the patient, whom we will call Mrs. Roberts, was in a precarious condition. I saw her at eleven o'clock in the morning. She was so weak and exhausted that she could tell me little. Her mother, however, stated that at half past ten the night before, while walking across her bedroom, Mrs. Roberts was seized with violent pain in the abdomen; that she screamed and fell in a faint. Her physician arrived half an hour later, and found the patient on the floor, pulseless. She remained in a semi-conscious condition three hours, but under stimulants she slowly rallied. With the return of consciousness she experienced excessive pain, which lasted all night. At the time of my visit the patient complained of great pain in the *left* chest. A careful examination was impossible, owing to her exhausted condition.

Mrs. Roberts looked very sick. She lay propped up in bed, with temperature 99.4° and a soft, easily compressible pulse of 120. The whole abdomen was exquisitely tender, but most tender over the sigmoid region. I learned further that for several weeks past she had had frequent painful flowings, coming on twice a month and lasting ten days.[1] The patient assured me that there was no possibility of her being pregnant, and in view of my previous knowledge of her and the great gravity of her condition, which she realized, I felt that her statement must be taken at its face value. I felt also that active operative treatment was out of the question, and accordingly ordered stimulants, absolute rest and the infusion of salt solution into the rectum. One result of the infusion was an abundant foul discharge from the rectum after a few hours. The next morning I saw Mrs. Roberts again. Her condition was somewhat improved, but the abdomen was still too tender for a proper examination. I had her transferred

to a hospital, where she continued to improve slowly throughout the day. That night she had a slight hemorrhage from the uterus, but it was of no special consequence. On the morning of the third day I found her condition still critical; her temperature was 101°, the pulse soft, irregular, and 120. She informed me on this day that for the past month she had been suffering severely from recurring abdominal pains, which, associated with the irregular flowing, had greatly impaired her health. She stated further that one week previously she had experienced a profound mental shock from seeing a close friend die in puerperal convulsions.

This visit of mine was on the 31st of January. From this time on until the 17th of February, three weeks from the time of my first visit, Mrs. Roberts improved slowly, the flow diminishing, the pain subsiding, the temperature falling to normal, the pulse regaining good strength and quality at 80.[2] On the 17th of February the pain and tenderness, which while subsiding had been localized on the *left* side, suddenly shifted to the *right* side, and during the night of the 17th the patient suffered again from collapse, with excruciating pain in the right ovarian region. I found her early in the morning with a pulse of 110 and temperature of 98°. The uterus did not feel enlarged and was in fair position; there was no external hemorrhage. Although the condition was serious, it was not so immediately alarming as I had found it three weeks previously, and I determined, after consultation, and careful explanation to the patient and her family, to proceed with a hasty emergency operation.

After curetting the uterus, I opened rapidly the abdomen and found the peritoneal cavity filled with clots and defibrinated blood. In the right tube, about three inches from the uterus, was a mass the size of an English walnut. The right ovary was sclerotic; the tube was not ruptured. The left ovary and tube appeared in no way abnormal. I removed the right tube and ovary, quickly washed out the clots and blood from the abdominal cavity, removed a thickened and adherent appendix and closed the abdomen.[3]

[1] One suspects at once an extra-uterine pregnancy, in view of the irregular flowings, the overwhelming attack of pain and the collapse. One must consider further the possibility of a twisted ovarian cyst.

[2] The course of the case up to this point was far from characteristic. One thinks of an extra-uterine pregnancy, with a probable tubal abortion, but in addition to this probability my consultants and I were bearing in mind a number of other casualties. The pain and tenderness were mostly on the left side, in the sigmoid region, which led us to consider the possibility of a diverticulitis, or perhaps the impaction of a calculus in the left ureter. It would be unusual for a tubal abortion to bring a patient into the critical condition I have described without doing further damage.

[3] It is impossible for me to explain the reason for the left-sided pain during the earlier weeks of this patient's illness. At operation all the trouble was found on the right side, and the blood which filled the abdominal cavity evidently came from the fimbriated end of the right tube. The mass in the tube, which I supposed, of course, to be the sac of an embryo, with its contents, proved to be merely a large, thickened, laminated blood-clot, while further examination of the tube itself revealed none of the products of conception. It is only fair to say that the tube was cut off at a distance of about an inch from the uterus, and it may well be that there was an interstitial pregnancy — a pregnancy taking place in the right cornu of the uterus — and that the hemorrhage and pain were due to the expanding of the uterus, the blood escaping inward along the course of the tube, as well as making its way out through the uterine canal and vagina. The need of great haste in the operation and the critical condition of the patient rendered careful examination impossible, but the fact remains that no positive evidence whatever of pregnancy was found. Be it remembered that this patient had had a miscarriage some seven months before this operation.

Mrs. Roberts rallied slowly from the profound shock of the operation, but in the course of two or three days she was making good progress, and eventually recovered entirely. I have seen her occasionally during the past three years. There have been no more catastrophies, and she has remained well.

FIG. 3.

Bismuth-laden colon, normal; showing usual position of cecum, ascending colon, the two flexures, transverse colon, descending colon and sigmoid. Note splenic flexure somewhat higher than hepatic flexure. Note relations of flexures to iliac crests. Normal position of colon.

DIGESTIVE DISORDERS.

The following thirteen cases of digestive and associated disorders form a rather interesting series, illustrating the development, through a period of six years, of our enlarged conception of a certain class of diseases.

Case 51. Mr. R. M. Lunt, forty-five years of age, was referred to me for consultation and treatment by a Boston internist on the 9th of June, 1905. The patient was a broker, unmarried, with a fairly clean past history. He had never been the victim of venereal disease, or of the eruptive fevers, but for many years had suffered much constant abdominal pain, especially in the appendix region. This pain was said to be aggravated by all forms of food, so that the patient was obliged to diet carefully, and at the time of his consulting me was subsisting mainly on milk, shredded wheat, oysters, eggs and cooked fruits. He was easily exhausted by slight exertion, and was in an extremely depressed nervous state. He complained of frequent flatulence and rumblings in the bowels, of irregular attacks of abdominal pain, increased sometimes by food, sometimes by exertion. He had consulted many physicians, and had been through a great variety of treatment, especially in the way of stomach washings and the use of antacids, all with no permanent benefit. He was the victim of an obstinate and distressing constipation also, and was obliged to secure a movement of the bowels by large doses of aperient waters. The nature of his movements is worthy of note. A competent chemist reported as follows: "The movements are made up of various hard, firm masses, intermixed with an enormous amount of mucin. They are of slightly acid reaction. Large fragments of prunes could be seen. Under the microscope there were found numerous fatty acid crystals, some soap and a great many muscle fibers, a few starch granules, fragments of mucin, some stained and some unstained with hydrobilirubin, epithelial cells, both

stained and unstained, and numerous nuclei of epithelial cells which had been digested, together with a large number of hematoidin crystals. This condition shows very clearly that there is a severe catarrhal enteritis, of a chronic character, associated with a colitis which, according to the presence of the fecal masses, can only be accounted for by the fact that there is a good deal of spasm of the intestinal coats; and the presence of the hematoidin crystals indicates the presence of blood in the feces, from a hemorrhage occurring, probably, sometime before the feces were passed."[1]

My consultant had made a careful study of Mr. Lunt, and had convinced himself that the patient's disorder was confined to the large intestine mainly; that the colon was acting irregularly and ineffectively, and that probably there was an associated chronic appendicitis, which might well be the initial cause of his ailment. I was asked, accordingly, to make my own study of the case, and to perform an exploratory operation if that should seem best.

My physical examination of Mr. Lunt was far from conclusive. The man was of a familiar type,— anxious looking, well developed, but emaciated, with furred tongue and tremulous hands. He described himself as utterly unfitted for work, although his work was not particularly exacting. In addition to the symptoms already described, he complained of blurring of vision, shortness of breath and inability to concentrate mentally. I found his chest to be not abnormal and the eyes to be sound. The abdomen was slightly distended, especially below the navel, when he stood; there was a marked pulsation of the aorta in the epigastrium; the skin was somewhat dry and scaly and was tender over the whole abdomen; there was marked tenderness at McBurney's point; the examining finger entered the rectum with difficulty; there was slight prolapse of the right kidney. I made no special investigation of the position of the stomach, though by percussion and in view of the general contour of the abdomen I concluded that the stomach was somewhat prolapsed.

An exploration seemed reasonable; accordingly, on the 15th of the same month I opened the abdomen in the median line. The appendix was partially obliterated and buried in adhesions.

I removed it. The transverse colon presented an appearance unusual to me at that time. My notes describe it as shrunken and thickened, the lumen scarcely admitting the little finger; the stomach was enlarged with its greater curvature four inches below the navel, as the patient lay on the operating table; the shrunken transverse colon lay at the pubes; the cecum was deeply injected and greatly dilated; the sigmoid was normal in appearance, but both sigmoid and cecum were extremely movable, and hung from long mesenteries.[2]

[1] The condition here described has long been known as mucous colitis, and has been regarded as a nervous disorder akin to that hypothetical disease, nervous dyspepsia. Most of the text-books describe mucous colitis as being a disease peculiar to nervous women and to young boys. They recite a great variety of symptoms, both nervous and digestive; they tell of emaciation, irregular appetite, distress after food, headache, constipation, alternating with diarrhea, and the discharge of varying amounts of mucus from the bowel, with sometimes actual casts of the bowel itself.

[2] These findings cause no special interest to-day, but six years ago we were less familiar with the nature and characteristics of visceral ptosis. That the whole colon was prolapsed, owing to an abnormally long mesentery, is obvious, and the prolapse of the hepatic flexure, associated with a kink and partial obstruction at the high, normally placed splenic flexure, was undoubtedly the cause of the apparently small size of the transverse colon and of its lack of proper function.

This condition of the intestine seemed to me capable of being remedied by various measures, such as fastening the colon high into place, performing colostomy, followed by through-and-through washings, or even by a resection of part of the colon; but in view of the feebleness of the man I thought best to do the rapid and simple operation of anastomosing the movable cecum to the movable sigmoid. I performed that operation, accordingly, thereby sidetracking practically the whole of the large intestine.

The patient bore the operation very well, his pulse that evening being 72 and his temperature normal. He made excellent progress throughout his convalescence. The effect of the operation was practically to cure his constipation and

to relieve him of his flatulence. At the end of two weeks he went home, in much improved spirits. I have followed his subsequent condition with a great deal of interest, and hear from him still two or three times a year. His nervous symptoms have improved; he is able to attend to his business with vigor and reasonable regularity; his eyesight is good; he can eat and digest an average diet, and has little pain, while his mucous colitis has gradually improved until now it troubles him not at all. On the whole, I feel we are justified in concluding that the results of the operation have been satisfactory.

Case 52. For some seventeen years, up to the summer of 1907, I employed frequently as a professional nurse Miss Margaret O'Neil, a rugged, vigorous, hard-headed, able Scotch woman, of the type on whom a surgeon counts for accurate information and reliable service. Twice during the years 1903 to 1906 she went to Cuba in her professional capacity, and was under severe strain during those visits. Miss O'Neil was fifty when she consulted me professionally by letter, in July, 1907. At that time she was suffering severely from an acute arthritis of both knees, and informed me that for more than twenty years she had been subject to periodic attacks of arthritis, which impaired her activities and wore upon her strength and spirits. Aside from this disturbance she had suffered all her life from some indefinite form of dyspepsia; from constipation, alternating with diarrhea; from irregular, nagging, general abdominal pains, especially pain in the left upper quadrant of the abdomen; from excessive flatulence; and occasionally from pain in the region of the appendix. During the last three years she had found herself less able to do her work, on account of increasing dyspnea, which was associated with impaired vision and some degree of emaciation. For the past three weeks she had been extremely rheumatic as she said, and had been able to walk with the greatest difficulty, spending much of her time in bed. Most of this information was conveyed to me by correspondence.

On the 15th of July I sent for her to enter a hospital in my neighborhood. I found her much changed since my last interview with her six months before. She was a large-framed, rather gaunt woman, now emaciated and anxious looking. She was evidently in pain, and complained of the continual stiffness and pain in her knee joints. There was a marked mitral insufficiency also and some hypertrophy of the heart. The mitral leak was apparently well compensated, She told me that for two weeks she had been running a fever of from 101° to 102°, with increasing pain in the right side of the abdomen and chest. I found her temperature to be 102°, her pulse 100, leukocyte count 8,000. There was obscure pain and tenderness, with a small, indefinite mass to be felt in both iliac regions; the right side of the chest was full of fluid; the heart

was crowded somewhat to the left by this fluid; the spleen and liver were not enlarged.

Here, then, was a woman acutely ill, apparently, with a pleurisy and possibly an appendicitis, superimposed upon her chronic arthritis. The mass in the left side of the pelvis could not be well made out, but seemed to me to be a small ovarian cyst. It was quite obvious that the first thing to do was to bring her through the acute crisis. In the course of a week she was greatly better; the right chest had cleared up, the heart had come into good position and was acting well, the temperature was running practically normal, but there was more pain and irritation in the region of her appendix than at the time of her entering the hospital; the abdomen was somewhat distended constantly and was everywhere rather tender, especially in the region of the spleen and in the right lower quadrant.[1]

In view of Miss O'Neil's improved condition and the probability that the underlying trouble lay within the abdomen, I decided to operate, and to remove the appendix, if nothing more. Accordingly, on the 23d of July, I opened the abdomen, and was immediately struck by an unlooked-for condition there. This was a marked ptosis of the stomach and large intestine,— the ascending colon and the transverse colon being almost entirely within the pelvis, the stomach being completely below the navel, and the splenic flexure so sharp as to produce an apparent obstruction. The uterus and ovaries were small, the pelvic organs were not diseased and were quite movable. The appendix was in a state of subacute inflammation, was five inches long and was obstructed one inch from its tip. There was nothing peculiar to be felt or seen in the region of the liver or bile-passages. It did not seem best to me at that time to do more than remove the appendix, and to provide by subsequent treatment for the ptosis.[2]

Miss O'Neil made a tedious recovery from the operation. The removal of the appendix relieved her immediate distress, but the marked ptosis remained. In 1907 I had not as yet come to any positive conviction regarding the treatment of ptosis. In this case, however, I employed, as I was accustomed to employ at that time, a well-fitting corset-belt,

which greatly relieved many of the symptoms and seemed in a fashion, to benefit the chronic arthritis. Miss O'Neil returned home with fresh courage, expecting to take up her work later in the year. Unfortunately, her endocarditis progressed rapidly, and we learned in the course of six months that she had succumbed to heart disease.[3]

[1] At that time I was unable to make up my mind whether the acute pleurisy was coincident with or was the effect of some other ailment. It seemed probable, however, that the infection which was causing the arthritis caused the pleurisy also, and not improbably was behind the abdominal inflammation. The source of this infection was far from apparent. I suspected the throat, for in those days we were looking first to the tonsils as a source of arthritic inflammation. Miss O'Neil's throat was certainly affected, though not markedly; she had a mild tonsillitis, which gave her little or no trouble.

[2] The marked ptosis which I have described is a common cause of indefinite chronic dyspepsia. The dragging of the prolapsed viscera upon the mesentery and blood supply interferes constantly with the proper nutrition of the organs; the innervation is disturbed, the chemical activities of the glands are interfered with, while the partial obstruction at the splenic flexure is a continual source of pain, irregularity of the bowels and distention with gas. In these cases one sees characteristic discharges of small, hard, fecal masses from the bowel, occasionally interrupted by attacks of diarrhea. There is blocking of the fecal stream in the caput, which is consequently a common seat of fecal impaction.

[3] In view of our present studies, it is not unreasonable to assert that the circle of disorders which led up to Miss O'Neil's death was this: (1) A pronounced gastro-enteroptosis, congenital; (2) a resulting chronic intestinal fermentation, leading to the formation of toxins; (3) a low grade of chronic toxemia, affecting constantly the serous surfaces, especially the joints; (4) an acute pleuritis, secondary to the chronic arthritis and the intestinal toxemia; (5) an endocarditis, dependent upon, and associated with, the toxemia.

Case 53. Another case of chronic dyspepsia, associated with baffling symptoms, was that of Ada Blowitz, an overworked young Jewish woman, unmarried, twenty-six years old, who consulted me on the 20th of February, 1908. She was a mill operative, and told me that she was worn out with nursing an invalid mother.

She described a dietary such as would shock any self-respecting canine. She said that for years she had been subject to chronic toothache, which disturbed her sleep and made her constantly wretched. Nine months before I saw her she began to be troubled with pains in the legs and back, with headache, with occasional general abdominal pains, not specially dependent on food and not localized; she had a distressing dysmenorrhea, which caused her great suffering, with constipation, poor appetite, sour mouth, acid stomach, and occasional nausea and vomiting, without relation to food. She had grown thin and feeble, especially in the past six months.[1]

I found this patient to be all that she described herself. She was an anxious-looking girl, fairly well developed, but under-nourished; her teeth were in bad condition, carious and nearly useless; her chest was not peculiar and her heart was sound. The abdomen, however, showed fairly characteristic appearances. When she stood, her attitude was extremely faulty, round shouldered, with projecting scapulæ and flattened dorsal spine. The abdomen was retracted in its upper portion, but bulged below the navel; the aortic pulsation above the navel was marked. Her uterus was retroverted, and on examining the rectum I found the finger entered a tight sphincter and encountered a choked rectal ampulla. These evidences alone are sufficient to suggest a general descent of the abdominal viscera, undoubtedly congenital.[2] The abdominal contour was long and narrow, and the lower ribs approached nearly to the spine of the ilia. On further investigation, I discovered the right kidney to be down and extremely movable, while the stomach was prolapsed, as shown by air distention, and the whole lower portion of the abdomen was tympanitic; the skin over the abdomen, moreover, was dry and tender at numerous points not especially significant.

I believe most practitioners would have agreed with me at the time of this examination, in regarding the girl as being in a state of advanced " physical and nervous prostration," due to her conditions of living. The visceral ptosis, however, was doubtless an element in the situation, though I did not realize that it might be the important underlying factor. I treated the ptosis then as most of us were treating such cases, as an incident in the condition. I was able to secure for the girl the services of a dentist, a month's rest in pleasant, hygienic surroundings, and saw that she got proper food and tonics. I treated the ptosis by a well-fitting corset-belt, which immediately relieved greatly her uncomfortable digestive symptoms and her abdominal pains.

This girl disappeared from view shortly after her visit to me, but a year later she reported that she had gone back to work in greatly improved condition, and that she continued with advantage to wear the corset-belt.

[1] The train of symptoms described by this patient is such as is frequently ascribed to being " run down " from overwork, bad hygiene and absence of the pleasant things of life, and such accounting for the symptoms is entirely reasonable. One thinks also of the special causes for digestive disturbance: bad teeth, leading to improper mastication and consequent gastro-intestinal irritation; gastric ulcer, which is common enough in under-nourished young women; and not improbably some occult form of tuberculosis.

[2] Descent of the stomach, and even of the intestines, has long been recognized by surgeons, for the abdominal operator is accustomed to find a stomach at the navel and a correspondingly low position of the colon. The general practitioner, however, and even the surgeon, interested in abdominal disease, has been little accustomed to locate and map out accurately the actual condition and position of prolapsed intestines. In the case under discussion I thought little of the descent of the colon, but regarded the low-lying stomach as of much the greater importance, a view which I am now convinced is erroneous.

Case 54. The following brief study illustrates a familiar condition which used to baffle practitioners. The condition to-day is not always understood, and is still frequently treated with drugs, diet and massage.

Mrs. Wall, at the age of fifty-one, was sent to me by a competent gynecologist, in the summer of 1908. My consultant wrote that he had removed a small, benign growth from her cervix six months before; that this operation had been followed by a month of extreme prostration, and that the patient was not yet entirely recovered.

Mrs. Wall told me that she had been a "dyspeptic" all her life. She had two children, who were now grown. She complained of continual chronic constipation, frequent gnawing pains low in the epigastrium and not influenced by food, and a slight constant nausea; she said she was rapidly running down, that the pains were becoming more severe, and that sleep had become almost impossible for her. I could make nothing else out of her history.[1]

[1] The story up to this point is not unfamiliar, and is told often to gynecologists. Not long ago we used to think that this train of symptoms was due to pelvic disorders alone,—to displacements of the uterus, to old inflammations of the tubes and ovaries or even to tears of the cervix. These were called reflex symptoms. All of us, neurologists, internists, surgeons, talked about reflex symptoms, without knowing exactly what we meant.

I found Mrs. Wall to be a large, stout, cheerful, rather "nervous looking" woman. She appeared to be nearer sixty-five than fifty-one years of age. The pelvic organs were not peculiar and the perineum was sound; her skin and muscles were lax and flabby; the abdomen was large and very much relaxed; it seemed to be everywhere tympanitic, but on careful distention of the stomach with air I demonstrated the lesser curvature of that organ to be about four inches below the navel; I could feel both kidneys movable and in descent; the colon also was obviously prolapsed. There was no evidence anywhere of a tumor, or other serious organic derangement. At that time it seemed to me needless to carry

the investigation further; it was clear that much of Mrs. Wall's discomfort was due to her visceral ptosis. Accordingly I had made for her a well-fitting corset-belt which she was to wear constantly when on her feet.

Six months later she sent me word that she was much improved, and that she expected always to wear the belt, as it gave her great comfort.

This easily investigated and familiar type of ptosis is probably congenital, but such ptosis is increased by child-bearing, by advancing age and by laxity of the normal supporting structures. The exact extent of the ptosis was not demonstrated by the crude examination I made at that time. Enough was apparent, however, to encourage me in the belief that the conventional corset-belt which I ordered would relieve the patient of her symptoms.

Case 55. Mrs. John Sullivan told me that she was the victim of many pregnancies, when I went to see her at her own house, with a consultant, in the neighboring town of Sylvan, on the 29th of December, 1908. She seemed to be a very sick woman, and gave me much anxiety; indeed, her physician had told her husband the night before my visit that she could scarcely live through twenty-four hours. She was thirty-five years old, and had borne ten children, the last confinement being four years before I saw her. Aside from her puerperal history, there was nothing to cause comment. She came of strong, vigorous people, of Irish stock, and had always been well as a girl and young woman. After her first two children were born she began a course of gynecological sufferings such as are common enough,— backache, leucorrhea, frequency and incontinence of urine, constipation and occasional dyspepsia. She told me that since her last confinement she had had much abdominal pain, especially in the region of the appendix, though the pain often located itself in the left groin, and even in the splenic region. These pains, she said, were associated with much rumbling of the bowels and with flatulence, and were relieved by the passage of gas and by movements of the bowels. She stated that her movements had been growing peculiar. From her description, they seemed to be like those of the herbivora,— small, hard balls.

My consultant was perfectly definite in his judgment of her condition, and was, in the main, entirely correct. He told me that she had a right floating kidney and was in the midst of a Dietl's crisis. It appeared that for the last four days she had had increasingly severe abdominal pain, with exquisite tenderness on the right side of the abdomen and a rising temperature. The urine was " scanty, heavy, scalding in the passage "; it contained one quarter per cent of albumen and numerous hyaline and granular casts.[1]

I found Mrs. Sullivan to be a large, vigorous-looking woman, extremely flushed and anxious. Her abdomen was slightly distended and everywhere tympanitic; it was everywhere tender also, but exquisitely tender especially in the right inguinal and right umbilical regions. One could make out

FIG. 4. CASE 56.

Stomach filled with bismuth paste. Some sagging at pyloric end but position not far from the normal. Patient standing.

readily an indefinite mass, the size of a man's fist, in the right renal region,— a mass which descended somewhat below the crest of the ilium and could be returned upward by manipulation; indeed, the result of manipulation and replacement of this mass, presumably the kidney, greatly relieved the patient. The woman's bowels had been opened by catharsis; there was no vomiting. One notable feature of the case, however, was a slight, marked jaundice, which was said to have existed for some three days and to have appeared at irregular previous intervals. The liver was slightly enlarged and there was some tenderness in the region of the gall bladder, though nothing in the history pointed definitely to a cholangitis or attacks of gallstone colic.[2]

[1] The train of symptoms described might well and properly lead one to the diagnosis of floating kidney. We find all the text-books stating that a floating kidney is a frequent cause of dyspeptic symptoms and of abdominal pains, and we are told commonly that the replacement of the kidney will relieve the discomfort. In a sense, such a statement is true, but we have come to look for a more far-reaching cause and a more complex condition of disorders than is explained by the mere term, floating kidney. We now know that floating kidney, which is almost always on the right, is associated frequently with descent of the ascending colon, and that the falling colon brings with it the transverse colon and the stomach, while it drags upon the liver and bile passages. In great numbers of cases we must believe that the primary condition is a descent of the colon, and that the descent of the kidney, like the descent of the transverse colon and stomach, is often secondary.

[2] This jaundice is commonly associated with a markedly movable kidney and with Dietl's crises, as all the text-books confess. The true significance of the condition, however, is infrequently mentioned. It is not that a descending kidney necessarily and as an isolated organ drags upon the duodenum and bile passages, thus causing obstruction, but it would appear that the descent of the colon is primary, and that the weight of the colon, frequently loaded, drags upon the kidney, the stomach, the duodenum and the bile passages. Certain it is that we find enteroptosis associated with floating kidney, and occasionally associated with symptoms of bile-passage disease, notably with jaundice.

Although these various facts were clear, nevertheless I fell into the common error of regarding the descent of the kidney as the one significant feature in the case, and paid little regard to the obvious ptosis of other organs. I advised palliative treatment for the present, replacing the kidney and keeping the woman flat in bed until her acute symptoms had subsided. In the course of a month she felt well, but was easily persuaded to submit to an operation for fixation of the errant kidney.

On the 15th of February I exposed the kidney, which was found to be extremely movable, and fixed it by the capsule-splitting method of Edebohls. Mrs. Sullivan made a slow convalescence, but at the end of a month was well and entirely free from the pain following the operation. In the course of the next year she went about her usual occupations with renewed vigor, but still she was far from being free from many of her digestive symptoms. A year later, early in 1910, I advised her physician to have made for her a corset-belt. She has been wearing this, I am told, for many months now, and finds that it gives her great comfort and relieves her from most of her distressing symptoms, though the actual condition of the viscera, and the extent of their prolapse, is even now unknown to me.

Case 56. The case of Mrs. Wheeler was long, intricate, difficult and informing. I was summoned to see her in consultation at a country house in northern New York, on the 3d of August, 1909. It seemed undoubted at that time that the circumstances of her past life had an important bearing on her serious illness. She was thirty-four years old, and had been a widow four years. During her girlhood and short married life she had lived in extremely moderate circumstances, had herself borne the brunt of much family hardship, and after her marriage had nursed an invalid husband through a fatal phthisis. She had always been a person of retiring disposition and somewhat morbid habit, and after her husband's death, finding herself in a state of comparative poverty, she had fallen into a condition of mental and physical collapse, from which she had not recovered. Fortunately, perhaps, for her, about a year before I saw her, a friend, a wealthy young woman, had taken her into her household as companion and intimate. During the past year, however, her nervous and physical troubles had increased. She was subject to long periods of depression, to headache, to abdominal pains,— cramplike in character, located generally in the epigastrium,— to constipation, to nausea, to a sense of being utterly exhausted, so that for days together she lay in bed hardly able to raise her head. Thinking her disorder was altogether mental, she applied to practitioners of the Emmanuel Movement, but was informed that she should consult a physician. Finally, in March, convinced that she was the victim of some serious organic derangement, she consulted her family physician, who sent her to a hospital and put her under the care of a specialist in gastric disease. She remained in the hospital for a month. During that period she was carefully examined and given all the conventional tests. The physician under whose care she was tells me that he thought at one time she had gastric ulcer; indeed, he was convinced that that was the fact, but as she improved somewhat, with rest in bed and careful dieting, he was satisfied to send her home finally as a probably cured case of gastric ulcer. She then went to the country, where she had been for some two months when I was summoned to her. The

local physician who called me said that she probably had gallstones. It appeared that her condition of general prostration had not improved during her residence in the country. She was scarcely able to stand, and was carried about in a wheel-chair or in an easy carriage, but found that the slightest exertion or jar brought on attacks of severe epigastric pain. Her diet was limited; she was in terror of all food, was becoming greatly emaciated and was extremely despondent. I was told that she was never free from a sense of distress in the epigastrium, and that this distress was punctuated every week or two by attacks of severe epigastric pain, which was relieved by morphia only.

I found Mrs. Wheeler to be a gentle, fragile-looking woman, with fair color, but in the flabby and nerveless condition common to persons who have lain for many weeks in bed. She was fairly well developed and not ill nourished. She was intelligent and took a keen interest in almost all matters of conversation. Her tongue was slightly coated, her chest negative, her pulse 70, her temperature normal. The whole abdomen was slightly distended and excessively tender everywhere, more especially in the epigastrium and the region of the gall bladder. She bore palpation with great distress. The slight abdominal distention was general; the right kidney was palpable, but not prolapsed apparently. I saw her twice in the course of a week. During that period her symptoms did not improve, and the recurring attacks of pain seemed to indicate without question a disease of the bile passages and gall bladder. Accordingly, on the 23d of August, I had her moved to a neighboring cottage hospital, where I operated for gallstone disease. I found the gall bladder and bile passages absolutely normal; the duodenum was not affected; there was nothing peculiar to be felt in the epigastrium; the stomach seemed somewhat low, its greater curvature reaching nearly to the umbilicus. I did not inspect the lower portion of the abdomen, as the patient was extremely feeble. However, I did remove the appendix.

Mrs. Wheeler rallied slowly from the operation. She was in bed for nearly a month, during the first two weeks of which the gall bladder was drained. She returned home at length

in greatly improved condition, and for the next two months regarded herself as on the highroad to recovery. By the middle of November, however, her symptoms began to recur, though in a modified form. Her mental state was deplorable; she was continually on the verge of tears, looking upon herself as a chronic invalid. Her abdominal pains returned, though less severely than before, and in a different location. Her epigastric pain was absent, but she suffered from a continual abdominal distention, was tender throughout the abdomen, and complained especially of frequently recurring pain in the splenic region. Her constipation increased. For days she would lie in bed, unable to rise without an exacerbation of the pain. Her appetite failed, and she refused to eat anything save liquids. Owing to her weariness and inability to stand comfortably, I did not examine her in the standing position until several weeks had elapsed. When I did so, I concluded, on percussing the abdomen, that there was probably a slight degree of visceral ptosis, and to confirm this suspicion I had x-rays taken, which I here reproduce. We see that, although the stomach is not greatly displaced, there is a marked prolapse of the transverse colon, while the splenic flexure is held high, so that at that point there is an extreme colonic kink.

Shortly after this Dr. J. E. Goldthwait saw Mrs. Wheeler with me, and we agreed upon giving her a prolonged course of proper supports and exercises. This program was carried out for months, and in careful detail. During this period, in the latter part of May, Mrs. Wheeler suffered from an accession of mental depression, due to painful family circumstances. Subsequently she went away for the summer (1910), and returned in the autumn in much the same condition she was the year previously, after the operation. A series of x-rays was again made, and the previous diagnosis of enteroptosis was confirmed. In spite of all treatment by apparatus and exercises, it became apparent at length that we were not thus to succeed in relieving the patient's discomfort. After frequent consultations, it was therefore decided to operate, with the object of relieving the condition of the colon.

On opening the abdomen, it became apparent at once that

this patient's pain was due to the splenic kink or obstruction. The fecal stream was forced to pass upward from the pelvis, where the transverse colon lay, to the high splenic flexure, and there to round a narrow corner with the greatest difficulty. As a consequence, the whole colon and much of the small intestine were continually loaded with gas, as well as fecal material. This exploration was done for me by a colleague, Dr. F. T. Murphy. It seemed best, in view of the situation, to short-circuit the intestines; accordingly, the transverse colon was implanted into the descending colon, low, and the whole splenic flexure was excised.

The result of this operation was satisfactory. Mrs. Wheeler rallied well, and in the course of three or four weeks it was apparent that the function of her intestines was renewed. She was freed from pain, from constipation, from distention, while her mental condition improved enormously, and her general physical tone as well. After recovering a fair degree of strength and health she was encouraged to take exercises and to visit regularly a gymnasium, where she was properly instructed. She is now a much improved woman.

FIG. 5. CASE 56.

Showing marked sagging of transverse colon and kinks at hepatic and splenic flexures.

Case 57. The following case has in it certain of the features of Case 56. It is not final, as the patient disappeared during treatment, but it is extremely suggestive.

Mrs. John Ferris married at the age of thirty-two, and subsequently bore three children. On February 19, 1910, at the age of forty-two, she consulted me. She informed me that she was perfectly well up to her last confinement, nineteen months previously, but that since then something had gone very wrong with her. Sundry physicians and surgeons whom she named, all of them competent persons, were said to have told her that she had a myoma of the uterus, but of this she was uncertain. At any rate, she said that she had passed about nine weeks in bed, two months after her last confinement, and that she was curetted. She told the tale also which we hear so often, — that the surgeon feared to complete the operation lest she should die. Such statements are often pure inventions. Mrs. Ferris continued with a long list of ailments. She said that after the curetting she thought she had appendicitis, but was not sure; however, she did have pain in the region of the appendix, where there was a swelling or tumor. Ever since that experience, that is, for fifteen months, she had been " mad with a terrible nervousness." She said that she could not see well to read; there were frequent twitchings of the hands and feet, frequent attacks of intense mental depression and a continual weariness. All these symptoms were much aggravated by the catamenia. Nevertheless, she could eat well and sleep well. She stated, however, that she had lost ten pounds during the past week. Her bowels were acting well.[1]

On examing this woman, I found her to look much younger than her given age. She seemed slightly emaciated and extremely apprehensive, in terror of some unknown calamity. Her eyes were in no way peculiar; there was no enlargement of the thyroid gland, nor was there tremor, while the heart was in excellent condition, beating at the rate of 76; the chest was negative; the perineum was found torn to the sphincter and the cervix badly lacerated; the uterus was anteverted, while there was an excessive uterine catarrh; the pelvic organs were otherwise not affected. On examin-

ing the abdomen, I found it extremely relaxed and the skin shriveled. She was a large woman and the abdominal contents were easily palpated. Both kidneys were somewhat prolapsed; the stomach also was down.

Dissatisfied with my findings and wishing a further opinion, I then sent Mrs. Ferris to an internist, from whose letter I quote: " Aside from the pelvic condition, I find both kidneys loose and the stomach down two inches; not dilated. The heart is slow, at 60, and the pulse small. My idea is for the relief of this condition to stimulate for a time by strychnia, and to help the circulation by the same means. Also to give a fatty diet, cream, unsalted butter, olive oil, sweet almond oil, etc., between meals. . . . Whether there is an intestinal toxemia I do not yet know. She is in bad enough condition physically to have any old thing. It may well be that the depression is due to an intestinal toxemia."[2]

This patient was obliged to curtail her stay in Boston, so that I was able only to assume the presence of a considerable ptosis, my assumption being founded on the great laxity of the abdomen and the unsatisfactory percussion of the stomach and colon. However, acting on the assumption that there was a ptosis, I had the patient fitted with a corset-belt. I have heard from her once since then. She is certainly better. Her depression seems to be entirely relieved, her pain and digestive disturbances to be much less marked, and her whole outlook on life to be improved.[3]

[1] This is an extremely familiar story, and suggests the " nervous breakdown " which commonly occurs with married women who are worn out with household cares and the bearing and care of children. The physician often finds such a woman to have loose kidneys and a prolapsed stomach. Indeed, enteroptosis, or Glenard's disease, as it was called, has been regarded until recently as commonly due to childbearing and the wearing of tight corsets.

[2] I was unable to arrange for a proper x-ray in the case of Mrs. Ferris. I am convinced that we should have found a marked prolapse of both stomach and colon, especially of the colon, when the patient stood. One must bear in mind always the great distinction between the location of the stomach and colon in the prone position and in the standing position.

[3] The fact of a toxemia, due to intestinal fermentation, hinted at in the letter of my consultant, is an important matter. Intestinal ptosis is a prime cause of toxemia, which may manifest itself in many ways. Patients so poisoned may have neuralgias, myalgias, headaches, affections of the eyes, mucous colitis, arthritis, changes in temperament, and very frequently periods of marked depression, which may even lead to suicidal tendencies. Case 56 is an excellent illustration of this type.

Case 58. Long-continued digestive disorder often eventuates in surprising results — a fact familiar to every practitioner. Moreover, obstinate cases of apparently intractable disease may occasionally seem to justify unusual and hazardous remedies.

Mrs. Viola Hone is a case in point. When I first saw Mrs. Hone, on the 2d of May, 1910, she was fifty-four years old, and had been much of an invalid for twenty years. I saw her in consultation with a well-known Boston physician, whose views of her condition and the appropriate remedy I thought, and still think, to be sound. During most of her life she said she had been the victim of a chronic dyspepsia, fluctuating greatly from time to time, so that she had known periods of comparative health. For some five years past, however, her general condition had grown materially worse. She told me that her food had long ceased to nourish her, that she had lost some thirty pounds in weight, that she had no appetite and was made uncomfortable by what she did eat. She was languid and disheartened. Her distress was mainly shown by frequent nausea, general abdominal discomfort after taking food, distention with gas, or bloating, as she called it, and associated pain, felt mainly in the region of the appendix and in the region of the spleen. She suffered from an obstinate constipation also. For some ten years, however, her misery was increased by a progressive arthritis, which attacked the knees especially, though other joints also from time to time were involved. As a result, she walked with great difficulty only, and with constant pain. She had become almost bedridden, and despaired of her own condition.[1]

On examining Mrs. Hone, I found her to be an emaciated, sad-looking woman, apparently much older than her given age, greatly relaxed, with flaccid muscles and a flabby abdomen. Her heart was somewhat enlarged and there was an obvious endocarditis, shown by a considerable mitral systolic murmur, but compensation appeared to be good; otherwise her chest was negative; I did not have the opportunity of examining her in the standing position, but the contour of her abdomen, which was long and narrow, with the space

FIG. 6. CASE 58.

Whole colon sagging. Note both flexures displaced downward and transverse colon at brim of pelvis, sagging behind greatly distended sigmoid.

between ribs and ilium markedly diminished from the normal, suggested strongly a condition of visceral ptosis. This suspicion was confirmed by the x-ray, one of the plates of which I reproduce here.

We endeavored for some time to correct the ptosis and to improve the nutrition by supporting apparatus, but without material effect. Her condition continued to grow worse, and it was soon evident that something more radical was necessary; especially it seemed important that we should enable her to discharge the contents of her colon. There was occasional diarrhea at one period while she was under observation, with profuse dejecta of mucus. This alternated with a scybalous constipation. We determined, therefore, on exploring the abdomen and doing some operation which might direct the fecal stream properly towards discharge. Should her condition warrant it, some form of anastomosis appeared to be indicated; otherwise I determined upon establishing a permanent opening through appendicostomy, and relieving her by flushing the colon through the opening.[2] Accordingly, I opened the abdomen and demonstrated the condition which the x-ray had already shown. The ascending and transverse colons were in the pelvis, attached to an extremely long mesentery, there being slight retaining bands at the beginning and end of the cecum only, while the descending colon was held fairly high, in a relatively normal position. As the patient's condition under the anesthetic was far from satisfactory, I determined on establishing at once an appendicostomy, and did so, closing the abdomen without further manipulation of the viscera.[3] On the day after the operation I opened the appendix satisfactorily and washed the colon thoroughly, the discharge issuing in considerable volume from the rectum. Twice a day for the next ten days the flushing was done, and with decided benefit. The patient's digestive symptoms improved greatly, and she herself announced that the pain in her knees appeared to diminish. Unfortunately, however, Mrs. Hone's general condition did not improve. Her extreme prostration, made worse by the failure of proper cardiac action, encouraged a pneumonia, which set in rapidly on the ninth day after the operation.

From this she was unable to rally, and in spite of all our efforts she died of pneumonia, just two weeks after the establishment of the appendicostomy.[4]

[1] The long-continued arthritis is reasonably attributed to the many years of chronic dyspepsia. Our careful investigation of the case failed to elicit any other cause for the condition of her joints. This association is recognized more and more frequently as common and often as inevitable.

[2] The advantages of appendicostomy in cases of ptosis associated with mucous colitis have been many times demonstrated. Flushing the colon is undoubtedly of value, even though the flushing be accomplished through high enemata, but the through-and-through washing by appendicostomy is often an extremely effective measure.

[3] In performing appendicostomy it is well, after bringing the appendix outside the abdominal cavity, to secure it in its new position for a day or two before opening it, that proper adhesions may be formed. The surgeon should take great care also, in securing the appendix, not to cut off the blood supply, which is received mainly through the meso-appendix. The blood supply of the appendix being cut off, that organ dries up and shrivels, so that the establishment of a subsequent and permanent opening is very difficult.

[4] The fatal outcome of this case was a disappointment to us for many reasons. The operation was undertaken practically *in extremis*, and our hope for a permanent improvement certainly was never great. The early improvement, however, in the condition of the knees, raised our expectations, and it seems reasonable to assume that had the patient been able to withstand the pneumonia she might have obtained material, and perhaps permanent, benefit from proper intestinal drainage.

One may reasonably draw two conclusions from this case: First, that so mild an operation as appendicostomy, even, must be extremely hazardous in the case of a patient exhausted with long illness; second, that the temporary improvement in the joints which was secured by the flushing helps to confirm our belief that these cases of arthritis may often be dependent upon a toxemia, which is relieved by proper treatment of the bowel.

FIG. 7. CASE 59.

Note sigmoid, cecum and transverse colon crumpled together at brim of pelvis.

Case 59. Marion Paoli, at the age of four, had become a confirmed and chronic invalid. I saw her in consultation in May, 1910, when she was under the care of a well-known orthopedic surgeon. She was a victim of "chronic rheumatism," and had become nearly blind. She had run the gamut of numerous dispensaries and hospitals, and had received in abundance the conventional joint treatment which such institutions supply, but all without benefit. Her first and most notable ailment was a chronic arthritis, which had been increasing rapidly for the past three or four months, so that her knees were swollen and painful, preventing her from walking, and her wrists also had become involved in the process. For some six months also she had been afflicted with an increasing failure of vision. When I saw her she could barely distinguish light from darkness, and was said to have a form of cataract in both eyes.[1]

In order to determine the possibility of an intestinal obstruction with a resulting intestinal toxemia, we had the child x-rayed. Somewhat to our surprise and greatly to our interest, the x-ray demonstrated that the stomach and transverse colon were markedly prolapsed. The splenic flexure, however, seemed to be patent, so that we were left to assume that the obstruction, which undoubtedly existed was probably located lower down, in the region of the sigmoid or rectum. Her mother informed me that her bowels moved not more than once a week, and then only after dosing with large amounts of castor oil.[2]

So marked and so rapidly progressive a toxemia could be little influenced, we feared, through the wearing of an apparatus by so young a child. It seemed best to us, therefore, to attempt at once a radical operation which should establish effectual, though temporary, intestinal drainage. At that time the problem of intestinal drainage was not altogether clear to us, although we were familiar with the work on that subject made conspicuous by the activities of Arbuthnot Lane, in London. It seemed to me best, however, to establish an artificial anus, and to that end I determined, in the first place, to explore thoroughly the abdomen. On opening the abdomen, on the 14th of May, I found the cecum

and transverse colon prolapsed, as the x-ray had shown. The passage from the transverse to the descending colon was clear, but lower down, where the sigmoid flexure passes the brim of the pelvis, there was a sharp kink or twist, obviously the cause of the chronic obstruction. At this point in the operation the child's condition became so bad that I did not feel justified in a further extended exploration. I therefore drew out a loop of the sigmoid and established drainage by colostomy at that point.

The child did well; the wound healed kindly, and in the course of ten days movements of the bowels were free and abundant through the artificial anus. It was obvious that we had accomplished our object of securing proper drainage. We determined, accordingly, to watch the effect of the experiment to this point; and I call it an experiment advisedly, for the situation had been carefully explained to the parents who agreed that they would submit their child to any hazard, as it was obvious that under the old conditions her life must be short and increasingly wretched.

The child's mother took her away to the country for a long summer vacation, and on their return in October, 1910, we were gratified to observe a considerable improvement. The bowels were moving well and the artificial anus was comfortably controlled by dressings. The condition of the patient's knees was distinctly better, the wrists appeared to be but little involved and there was some slight improvement in the eyesight, judging from general appearances. The child was rosy and active, running about playfully in my office, and avoiding without trouble the furniture in her path. She was able to distinguish colors also, although she could not recognize individuals. It appeared that the time had now come to undertake a further attempt to establish a more comfortable drainage of the intestines.[3]

I undertook this second operation with a good deal of hesitancy as I feared that I should not be able to accomplish much and that the result might well disappoint us. On the 15th of November, I explored the abdomen again, opening down through the median line and leaving the colostomy opening untouched. Hardly was the abdomen open before

the child began to show the ill effects of the procedure, so that I was obliged hastily to conclude the operation. I could only satisfy the conditions by sidetracking the artificial anus, and this I did by cutting off the ileum at the cecum, and turning the proximal end of the ileum into the lower portion of the sigmoid, below the obstruction which I have previously described. The abdomen was then hastily closed and the child put back to bed in extreme collapse. For some three days it appeared that she would not rally, but eventually she improved, and in the course of two weeks the wound was soundly healed and the child almost as well as ever. For some weeks thereafter we were disappointed by the fact that fecal discharges issued from the artificial anus (backing up from the lower sigmoid), as well as through the anus proper, but by the middle of December this double flow had become much less, and the child's movements took place mainly through the rectum and anus.[4] Coincident with the establishment of this normal current, the patient's general condition improved greatly. Her arthritis disappeared rapidly, so that by the middle of January it troubled her scarcely at all. Moreover, on gross inspection, it seemed that the eyes had improved. At any rate, she went about without hesitation. The case is still under treatment, and a further operation undoubtedly will be necessary, an operation to close the artificial anus and probably to remove a considerable portion of the colon. This operation we shall postpone, possibly for two or three years, as it will be a tedious undertaking, and will be borne better by the patient when she is somewhat older.[5]

[1] It is not unreasonable to assume that a combination of arthritis with increasing blindness and the formation of cataracts indicate a profound general toxemia, probably from a common source. Indeed, the competent oculist who examined this patient assured us that the blindness was certainly due to some occult toxemia.

[2] This case, like several others in our series, appeared to show beyond much question that the intestinal condition was the primary one, and that the toxemia which was destroying the child's eyesight, as well as crippling her joints, was due to the ptosis demonstrated by the x-ray.

[3] One should remember always in doing abdominal operations on very young children that their resistance is low, and that the elaborate intestinal work which is endured by adults may well bring children into great shock, from which frequently they do not recover.

[4] There has been much discussion as to the wisdom of turning the ileum into the sigmoid or rectum, because it is assumed generally that that operation, by sidetracking the colon, brings about a condition of chronic diarrhea, the liquid contents of the small intestine being poured at once into the rectum. It is indeed a fact that absorption of water from the fecal stream takes place mainly in the normal colon, but it would appear that a certain amount of absorption takes place also in the sigmoid and rectum. At any rate, in the case of this child we have learned of little disturbance from diarrhea. I have now a series of six similar cases, three of them operated on by removal of the colon, and none troubled subsequently by diarrhea. The lower ileum also expands to do the colon's work.

[5] This case has about it a good deal of interest, as showing the development of our knowledge and studies in the treatment of extreme degrees of ptosis associated with intestinal obstruction. In other cases of a similar character I have omitted the preliminary colostomy which we did here, and have at once shunted the fecal stream from the ileum into the sigmoid flexure, or have done a primary removal of the colon (colectomy).

Case 60. On the 7th of July, 1910, Dr. Martha Thomas, a practicing physician, fifty-two years of age, consulted me, at the instance of one of her friends, also a woman physician. The patient had practiced medicine for some twenty-five years, always under great nervous strain, for, as she told me, she took life hard. Moreover, her practice lay in a remote country district, where the hours, as well as the distances, were long. She said that she never had been very vigorous, had always been somewhat dyspeptic, neurotic, and physically not up to her work. Moreover, she was a victim of chronic headache and constipation, and found little pleasure or profit from food. Now for some ten years she had had pain in the right side of the abdomen. Two years before she had had an attack of bilious colic, which she thought was probably due to gallstones. When I saw her she was the victim of remitting attacks of pain in the region of the gall bladder, pain coming on perhaps once a week, lasting several hours and easing gradually. She had never been jaundiced. The pain was not distinctly localized, but seemed to involve the whole upper portion of the abdomen, epigastrium and right hypochondrium.[1] In the summer of 1909 Dr. Thomas had a fall down stairs, and struck on her right side near the region of the gall bladder. Since then she had been totally incapacitated, the pain in the epigastrium being much worse than previously and rendering any physical exertion impossible. During the year before coming to me she had given up her work, and had called herself an invalid, passing much of her time in bed. She was the victim of constant fullness and distress in the abdomen, and attacks of diarrhea and misery on the slightest exertion, with an unceasing and indescribable sensation of discomfort in the right side. As she related her experiences she wept and sweated. Two years before I saw her she had gone through her menopause. On further questioning, she said that she experienced a burning distress in the stomach some hours after taking food.[2] Her appetite was fairly good, except for breakfast, which she loathed. She was continually constipated.[3]

[1] " Bilious " is a useful word, and most physicians have a

fairly definite idea of what patients mean when they use it. We associate it with the term sick headache, with impaired digestion, with constipation, with the conception of some obstructive process in the bile-passages, leading to the formation of gallstones. Altogether the history of Dr. Thomas's case up to this point suggests disease of the bile passages.

[2] Gastric distress some hours after taking food strongly suggests duodenal ulcer.

[3] Here is an interesting train of symptoms, — biliousness, suggesting gallstones; gastric distress several hours after food, suggesting duodenal ulcer; lack of appetite for breakfast, suggesting enteroptosis. We are still learning and investigating. Enteroptosis is associated with so many abdominal diseases that we are questioning its causative effect in those diseases. We find cases of gallstones and duodenal ulcer implanted upon an old ptosis. In the case of Dr. Thomas we find, in addition, the familiar ptosis symptom of lack of appetite for breakfast.

I found Dr. Thomas, on examination, to be a timid, incoordinated, flabby, middle-aged woman, extremely apprehensive and somewhat emaciated. Examination of the chest was negative. The abdomen was greatly relaxed and the right kidney very movable. X-ray investigation by Dr. Percy Brown showed, in addition to the ptosis of the kidney, a low-lying stomach and greatly prolapsed cecum, ascending colon and transverse colon. A careful study of the gastric contents failed to reveal anything significant.

The reader who has followed thus far my description of the various cases of ptosis will see that the case of Dr. Thomas corresponds quite closely with Cases 53, 54 and 55, in which no x-rays were made. Beginning with the summer of 1910, however, I have made a careful routine x-ray study of these cases, greatly to the advantage of the patient, as well as of myself. The x-rays in the case of Dr. Thomas made clear the need of proper artificial abdominal supports. Accordingly, I had Dr. Thomas fitted with a specially constructed corset-belt, at the same time giving her directions for exercises and the assuming of certain supplementary postures.

She went home, and I heard nothing from her until the 13th of October, three months later. She then came to see me, and told a refreshing story. Her pain had left her; within

FIG. 8. CASE 60.

Cecum is in normal position, but hepatic flexure has fallen into pelvis, with a resulting sharp kink in ascending colon. The attenuated sagging transverse colon seeks the high splenic flexure.

a week after putting on the support she had been freed from all digestive symptoms, and began to feel young and buoyant; her appetite returned, her vigor increased, her ambition was stimulated. Within two months she gained fifteen pounds, and when she came to see me she was planning to return to that professional work which a year before she had abandoned, as she supposed, for good and all. She certainly looked greatly better, and I was able to congratulate myself on having secured in her case a satisfactory result.

Case 61. Jennie Floyd, a young stenographer of nineteen, was sent to me by her employer on the 27th of July, 1910, because he feared she was breaking down, and because her physician had told her that she should be operated upon for appendicitis.[1] This girl was of a type and class extremely familiar; a New England girl, brought up in the country and still living in a country town, from which she came daily to her work in Boston. One of a large family of children, and the daughter of robust parents, she did not do justice in appearance and physique to her undoubtedly good heredity. Her mother, who came with her, told me that she had been a delicate child, but bright in school and active in play, when she was able to be about. A year and a half before I saw her she was thrown from a double-runner in a coasting accident. As a result she was laid up in bed for many months with what was called nervous prostration, while at the same time she suffered from an injury to her knee, the nature of which was not altogether apparent to me, though it would seem that her knee joint had been laid open by a severe blow. Scarcely had she recovered and begun to go about, a year before I saw her, when she noticed pain about the heart and in the right side of the abdomen after taking food.[2] During the year before her visit to me Miss Floyd continued to lead an uncomfortable, semi-invalid life, subject to occasional attacks of epigastric pain and distress, the pain extending sometimes into the chest and cardiac region. Her appetite was small and her food did not seem to nourish her. She lost flesh, became easily tired and suffered much from headaches. During most of this time, moreover, she worked as a bookkeeper, the confinement of which work added to her discomfort. All her distressing symptoms were greatly increased by catamenia, at which time she suffered also from a considerable backache.[3]

[1] Fifteen years ago an eminent surgeon remarked that if a patient complains of recurring attacks of abdominal pain the chances are that he suffers from appendicitis. This casual remark has sunk deep into the medical community, with the result that the diagnosis of appendicitis is now continually made on the smallest evidence.

[2] Young girls frequently complain of this symptom, which often resolves itself into the explanation that they eat indiscreetly, bolt their food, take no care of the bowels, and suffer from indigestion, with gas distention. At the same time one bears in mind that patients of this age are subject to gastric ulcer, and gastric ulcer may well exist without the classical symptoms of extreme pain and vomiting.

[3] Here is a complication of symptoms that may well puzzle the practitioner, and a condition of invalidism which is often a reproach to the medical profession. We are wont to say that such patients are under-nourished, are run down, or overworked. We prescribe rest, "improved hygiene," tonics and cathartics. Such measures certainly do improve patients for a time, but the invalidism is rarely cured, and the patients relapse after discontinuing the treatment.

I found this patient to be a bright, quick-witted girl, with rather hectic color, under-developed and somewhat emaciated. She was extremely apprehensive, and wept easily on being questioned. It was difficult to examine her, because she was exquisitely ticklish — a familiar symptom with girls of this type. She stood in a faulty posture, with shoulders rounded and dorsal spine flattened. The chest was negative, the heart action good and the heart in no way at fault. The abdomen was scaphoid, and while there was everywhere skin tenderness, I could make out no deep tenderness whatever. As she stood, the lower border of the stomach, on percussion, appeared to be about an inch below the navel, with the colonic tympany at the pubes. The appendix could not be felt, nor was the appendix area sensitive. The abdomen bulged somewhat below the navel, while the aortic pulsation in the epigastrium was easily felt; indeed, the patient complained of the pulsation in that region.

The picture I have drawn here is classical; the faulty posture, the scaphoid abdomen, protruding slightly below the navel, the neurotic symptoms, dyspepsia, constipation and the lack of definite localized pain, make up a group of signs and symptoms which I have learned to associate invariably with a visceral ptosis. In this case the right kidney was not to be felt.

I did not think it best at the time to secure a series of x-ray pictures, but proceeded at once to treat the patient with

a proper abdominal support and directions for the care of the bowels, with sweet oil, carefully graded exercises, the correction of posture and proper hours for sleep. Two months later I learned from her employer that she was very much better, and able to do her work with little effort or discomfort. The other day she informed me that she is well.

Case 62. The following case, one of long-continued dyspepsia, causing discomfort rather than chronic ill-health, was a troublesome study for me through many years. This patient consulted me at first as a friend who might direct her to a proper specialist. I did so, and she had the benefit of his care for two or three years. Eventually, however, she came back into my hands, when I was forced to regard her as a surgical or rather a borderland case. It is a familiar story enough, of the kind that taxes the patience and ingenuity of the physician, leaving him in the end little satisfied and the patient often discouraged.

Miss Martha Jackson at the age of forty, consulted me in the summer of 1906. I had long known her and her family and was familiar with her antecedents. She was a tall, vigorous, active-minded woman, abounding in good works and in anxious thought for the prosperity of her friends; given little to considering her own ailments. She told me, however, that for some ten years she had suffered from a certain amount of digestive disturbance, which did not especially trouble her, as it limited her appetite, particularly for breakfast, so that she remained thin and active, a condition which she preferred. Her main trouble — in fact her only trouble — was an occasional sense of soreness and discomfort in the epigastrium and a frequent condition of distention or bloating in that region, with eructation of gas.

I referred Miss Jackson to a competent internist, under whom she throve for some three years. He treated her for "hyperacidity of the stomach" and for slight gastroptosis. The treatment was long continued. She took antacids in abundance, partook of an extremely limited diet, ingested large quantities of sweet oil, was active in light exercises, and submitted to massage; furthermore, she was fitted with a tight corset, which she felt gave her a certain amount of relief. Throughout most of the year 1910, she was so much improved that she ceased to consult her physician and went on in relative comfort. On the 27th of November, 1910, however, she called me urgently to see her one afternoon, as her physician had left town for a long vacation. She told me her story as I have related it, but added the fact that for the past

two days she had been feeling decidedly ill; that the pain and tenderness in her abdomen had returned, but had shifted to a lower level; that the whole abdomen below the navel was extremely tender and painful; that she was much more bloated than formerly and was in misery with an obstinate constipation which enemata failed to relieve.[1]

A physical examination disclosed an abdomen somewhat distended and tender throughout, but especially tender below the navel, and extremely sensitive in the region of the cecum. The abdomen was everywhere tympanitic. There was no fever; the pulse was 80. The right kidney was palpable at the crest of the ilium. This patient stood in a fairly correct attitude, with her shoulders well back, but the dorsal spine was flattened, while the lower portion of the abdomen distinctly protruded. She was tall and thin, and was easily palpated. I saw her on two successive days, during which time her symptoms abated very much. The posture and the contour of the abdomen, taken with the train of symptoms, and especially with the fact that her previous physician had discovered a somewhat prolapsed stomach, led me to believe that she might be suffering from enteroptosis, as well as gastroptosis. Dr. Percy Brown's x-ray plates, which I here reproduce, show the justness of this conclusion. They show that the stomach is somewhat prolapsed, that the ascending and descending colons are in fair position, but that the transverse colon is well down towards the pelvis and is extremely kinked, or obstructed, at the splenic flexure. At first, in view of these findings, I was inclined to consider an operation which should eliminate the splenic flexure, either by anastomosis or by excision. However, it seemed best to try what a proper support would accomplish. For some months now Miss Jackson has been wearing a carefully fitted corset-belt, and is free from any discomfort. The distention is greatly less and the action of the bowels is satisfactory. During this period, however, she has had one severe attack of pain and distress, simulating the one in which I first saw her. At the time of this second attack her temperature rose to 101°, and I was forced seriously to consider the possibility of an acute appendicitis. Careful palpation of the colon,

FIG. 9. CASE 62.

Unusual displacement downward, forward and inward of cecum, ascending colon and hepatic flexure, with their long mesenteries. The splenic flexure is high, and in original plate shows sharp kink.

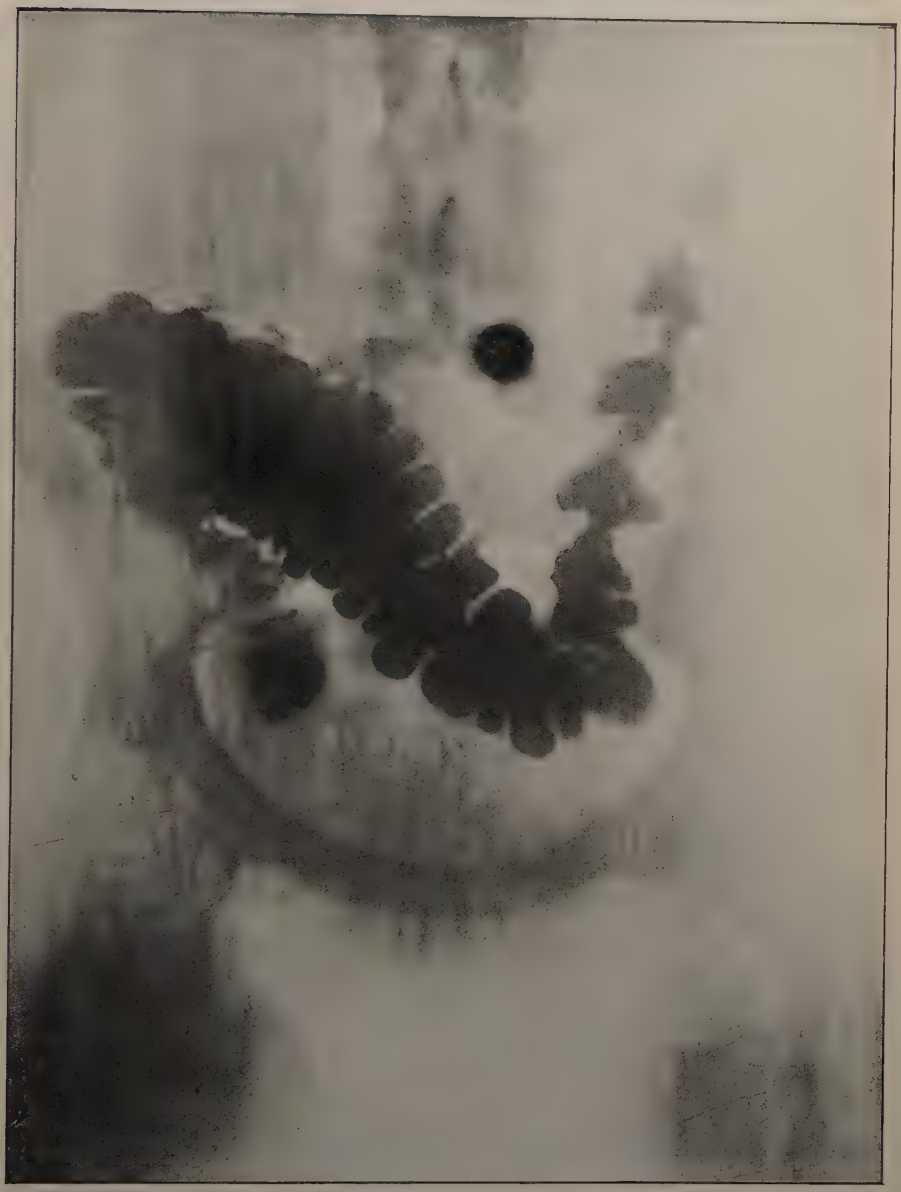


FIG. 10. CASE 62.

Somewhat similar to Fig. 9, but indicating high position of splenic flexure.

however, disclosed a massive fecal impaction in the cecum. This was relieved entirely by one massage treatment. Since then Miss Jackson has been comfortable, though the progress of her case is still in doubt, and it may well be that eventually an operation may be necessary to secure complete relief.[2]

[1] The acute attack which Miss Jackson here describes is suggestive of appendicitis, and the physical examination seemed to bear out that diagnosis.

[2] An interesting incident in connection with this last attack of pain was the circumstance that Miss Jackson was engaged to attend a ball on that very evening. She felt that her attendance was almost imperative. At the time of my call, which was in the morning, I believed that any such gaiety would be utterly out of the question. However, the active massage and the abstinence from food completely relieved her by evening. Her bowels moved thoroughly and effectually, her other discomforts disappeared, and she informed me the next morning that she went through the rather strenuous evening without thinking at all of her digestive disturbances.

Case 63. Lysander B. Pettigrew did not belie his name. His was a peculiar case. At the age of twenty-three, and a law student, he was a solemn young man, of grave aspect, given much to introspection and endowed with a feeble sense of humor. One afternoon in November, 1910, he presented himself in my office, saying that having casually seen my sign in the window he thought he would come in to be examined. Our acquaintance, thus begun, developed rapidly. He had no special complaint to make at first, but called on me occasionally to discuss the problems of life. Early in December, however, he presented himself with a severe synovitis of the left knee. As this was subsiding, and in the course of a couple of weeks, he confided to me that he had always suffered from dyspepsia. I treated the matter lightly, but on his insisting that the case was chronic, and perhaps serious, I allowed him to inform me that for ten years he had suffered from capricious appetite, from obstinate constipation,[1] from a loathing for food in the morning, from flatulence and a frequent sense of weight, bloating and oppression throughout the abdomen. Coincidently, his eyes had become troublesome and he had developed a progressive myopia.

A physical examination of Mr. Pettigrew revealed him as a six-foot young man, erect of carriage, though inclined to bow slightly in the lower dorsal region, with a flat, muscular abdomen and somewhat exaggerated gastric tympany.

[1] Although chronic constipation and scybalous constipation are frequently associated with enteroptosis, constipation is by no means invariable with such ptosis. I have in mind a young girl who suffered from an extreme degree of ptosis, her whole colon being crumpled in the pelvis, despite which her bowels moved freely once or twice daily, and she regarded herself as having no digestive symptoms whatever.

Had it not been for my experience with the difficulty of diagnosis in intestinal cases, I should not have thought it worth while to submit him to an x-ray examination. However, I did so submit him, and with this interesting result: The x-ray plate showed the stomach with its greater curvature one inch below the navel, the caput ceci, ascending and

FIG. 11. CASE 63.

Whole colon prolapsed. Both flexures down, especially hepatic flexure. Note crumpling of transverse colon near hepatic flexure.

descending colons crumpled and much prolapsed, both flexures being dragged down, and the transverse colon below the pubes.

Mr. Pettigrew was filled with amazement and interest when I explained to him the significance of the x-ray plates and compared them with the normal. He cheerfully accepted the situation, and was fitted with a proper ptosis belt. He has worn the belt for a few weeks only at the time of this report, but already he asserts that his sense of bloating and discomfort is less than formerly, that his constipation is practically cured, and that his outlook on life is greatly more cheerful.

BORDERLAND CASE.

Case 64. One afternoon in May, 1910, a friend of mine, Mr. Wendell, a lawyer, in Keene, Conn., telephoned to me that his wife, a woman of thirty, was flowing severely, and asked me what they should do. On inquiry, I learned that Mrs. Wendell had a baby one year old; that after the birth of the child she had had a comfortable convalescence, and regarded herself as well until the following March, 1910, two months before my telephone interview. In March her periods returned as she supposed, but in fact she continued to flow, and had been flowing almost daily — two months — up to the time of the report to me. The flowing was sometimes profuse, sometimes trifling, but persisted. As a result, she was becoming discouraged and greatly weakened.

As this patient was unable personally to consult me, and as I knew well her physician in Keene to be a responsible man, I called him up, and learned that he had done what he could to remedy the situation. He said that the patient's perineum was somewhat torn, that her uterus was slightly enlarged and prolapsed, and that in spite of local treatment extending over more than a month he had been unable to control the flowing, except occasionally by large doses of ergot. I suggested to him that she should be curetted, to which proposition he readily agreed. For one reason or another, however, the little operation was postponed. Mrs. Wendell went away for the summer, and during the summer was considerably better, passing a week or more at a time frequently without disturbance. During the following September, however, the flowing returned with increased activity, so that on her consulting me again early in October I determined to curette at once.

On examining the patient at this time, I found her to be a woman of medium height and rather heavy figure, with sound heart and lungs, general health excellent, the abdomen large and flaccid, bearing unmistakable evidence of the two preg-

nancies through which she had passed. The uterus had sunk deep into the pelvis and was enlarged to half again its normal size. The perineum was slightly torn and the uterine supports were greatly relaxed.[1] I was confirmed in my opinion that a curetting should be done, and accordingly carried out thoroughly that operation. I then opened the abdomen, raised the uterus and secured it high, in excellent position, by stitching together the round ligaments outside of the recti-muscles. During the next two weeks, while in bed, Mrs. Wendell felt the benefit of the operation. The loss of vigor and appetite and the sense of dragging in the pelvis, which she had had for many months, were completely relieved, and she got up at the end of a fortnight feeling more vigorous than for years, as she expressed it. She was given the usual caution about caring for herself and avoiding over-exertion.

I thought no more about this case for some two months when I was called on the telephone by Mr. Wendell, who informed me that his wife had again become a sufferer. Presuming, perhaps, on her improved health, she had gone actively about her usual employments until within a week, when she experienced a sharp attack of pain in the neighborhood of the abdominal incision. This was relieved at once by lying down; it returned when she stood up; and thus she had gone on for several days in pain and distress on standing and walking, comfortable when lying in bed. What should be done? It seemed to me that the pain was probably due to some dragging on the uterine adhesions. I called up the family physician, who had himself seen Mrs. Wendell the day before, and with an experienced colleague. Both gentlemen assured me that the condition was not grave, that nothing whatever could be discovered on careful physical examination, and that they thought it probable the discomfort would pass off with a few days of rest. Accordingly, Mrs. Wendell was put to bed, where she stayed for a month. While in bed she was perfectly comfortable and happy. Whenever she got up and walked about, however, the pain returned, until at last she became discouraged and greatly distressed. They telephoned to me to go up and examine her, which I did. Here are

my notes: "On examination, the notable feature is a great laxity of the abdominal wall and an obvious descent of all the viscera. The patient is perfectly comfortable while lying down, but has considerable pain at the right of the scar when walking. Bimanual examination reveals the uterus in excellent position, and nothing peculiar is felt. There is a slight tenderness on deep palpation at the right of the wound. The pain complained of is obviously due to a visceral ptosis and a dragging on the suspended uterus. On wrapping the patient's abdomen in a firm, low, compressing flannel bandage, she experienced immediate relief and great comfort, and was enabled to walk about without inconvenience."[2]

[1] Such a prolapse of the uterus is common enough in women who have borne children. Most surgeons regard it as a purely local condition, and satisfy themselves with raising the uterus into approximately a normal place and securing it by shortening the round ligaments, or by some similar procedure.

[2] While it is true that for years we have recognized the association of prolapse of the pelvic viscera with prolapse of the superimposed abdominal viscera, the significance of this fact has been dwelt upon too little. On consideration, one perceives that it is inevitable in the case of women who have borne children that the stomach, colon and other organs sagging from their supports must press down and add to the inevitable ptosis of the uterus and ovaries. A realization of these facts explains why it is that great numbers of women who suffer after child-birth with prolapse of the uterus are not benefited by a suspension of that organ. The mere suspension of the uterus, while other organs constantly weigh upon it from above, must be ineffective.

A few days later Mrs. Wendell came to Boston, where I had her properly and comfortably fitted with a corset-belt. She immediately experienced the greatest relief. She went home and continued to wear the belt. I have heard from her occasionally since then, and she assures me that she is well and strong and experiences no pain or discomfort whatever.

Case 65. In April, 1908, Mrs. B. F. Small was sent to me by a physician in Lynn, with the statement that she was suffering from a marked goiter. The patient was fifty-eight years of age, and a hard-working housewife. She said that her last catamenia had occurred one year before and that the flowing lasted six months. During all her previous life she had been subject to severe attacks of bronchitis, and had always been a dyspeptic, with the usual associated chronic constipation. Four years before I saw her, after an attack of bronchitis, she first noticed a slight swelling of the neck, which progressed up to the date of my examination, associated with a constant loss of strength. She was greatly depressed, excessively nervous, the victim of insomnia, suffered from distressing shortness of breath after slight exertion, and believed that her days were numbered.[1]

[1] It would appear at first sight that here was a typical case of Graves' disease. Graves' disease, however, is no such easy affair to diagnosticate, and, as the subsequent history of this case illustrates, it may well be confounded with other disorders.

I found Mrs. Small to be a fragile-looking woman, of medium height, well developed, but emaciated. The thyroid gland was distinctly enlarged on the left, the lobe being elastic, movable and half the size of a closed fist. She wept easily while telling her story. Her eyes were not prominent, and an oculist's careful examination revealed nothing unusual. As she spoke, her hands continually trembled, and on stretching out her fingers both hands showed a fine fibrillary twitching. Her heart beat at the rate of 80; it was slightly enlarged and irregular, but there were no murmurs. The pulse was of good quality; all the reflexes were normal; the voice was somewhat rough. On further investigation, I learned that the patient was troubled with a

frequent diarrhea, with pains in the long bones and with indefinite abdominal pains; moreover, she complained of severe recurring headaches.

I was in much doubt as to the exact diagnosis. Many of the symptoms, especially the nervous and digestive symptoms, pointed surely to hyperthyroidism, and yet the character of the pulse and the condition of the heart seemed to indicate that such a diagnosis was not truly justified. Moreover, in view of the patient's psychic state, I was disinclined to operate, until she assured me that she had come to me for an operation and would abandon all hope if operation were refused. Accordingly I sent her to the Massachusetts General Hospital, with the object of removing the thyroid. I kept her there for a week, resting quietly in bed. I regulated the diet and bowels, and eliminated, so far as possible, all causes of mental distress. I then removed the enlarged left lobe entirely, peeling back the posterior capsule carefully, with the associated parathyroid glandules. The operation was extremely simple, the hemorrhage slight, and the patient rallied promptly. The wound was soundly healed in the course of a week.

In spite of the success of the operation, however, the patient did not improve; her nervous symptoms persisted, her headaches persisted, the action of her heart remained unchanged. An examination of the tumor which had been removed showed it to be a simple cystic goiter, without the ordinary hyperplasia commonly seen in Graves' disease. Dissatisfied with the result of the operation, I then questioned further and more carefully the patient regarding her previous history. At length, and with the greatest reluctance, she admitted a fact of importance. She stated that some two years after her marriage, twenty-five years before, she had suffered from a long illness, characterized by enlarged nodes in the groins, a persistent skin eruption and the loss of most of her hair. She said that she was treated for this illness, to which she was unable to give a name, but that she feared she had never recovered completely. On the strength of this history of syphilis, I instituted a vigorous course of iodide of potash, and was grati-

fied after a few weeks to find that the patient's symptoms had entirely disappeared, especially the headache, from which she had suffered for many years, while the dyspepsia and diarrhea also subsided.

I report this somewhat commonplace case, as it is an interesting commentary on hasty diagnosis, and suggests the frequent probability of associated diseases. Certain it is that the small cystic goiter which I removed from the patient could scarcely have explained the severe and disabling train of symptoms from which she suffered.

Case 66. We are not wont to think of the extreme Northeast Canadian provinces as the abode of goiter, yet it would appear that Albert County, New Brunswick, is not a little afflicted with that disease. Mrs. Frank Holly, forty-five years of age, and a farmer's wife, came up from New Brunswick to consult me regarding her neck. She was the mother of twelve children, and stated that she was now three months pregnant. Married at fifteen, she had begun reproducing at once, and had always been a hard-working woman in more ways than one. She was a tired woman, moreover, and walked heavily. She said that three years previously she had a hard, fibrous tumor removed from the right axilla, and that now there were similar tumors in both axillæ. During the past three years, moreover, she had observed an increasing dyspnea, poor accommodation of the eyes, palpitation of the heart and gradual enlargement of the neck. As a result of these symptoms, she was easily tired and unable to do her usual work. Moreover, she was afflicted with a constant backache and dragging pains in the loins, with bloating of the abdomen, with constipation, with distress frequently after eating.

On examining Mrs. Holly, I found her to be a large, heavy woman, somewhat flabby; her eyes were not peculiar, but her teeth were bad, many of them gone and most of the remainder carious. She admitted that she lived on a diet of pork and pie, and bolted her food. She was anxious looking, hesitant in speech and apprehensive. Her pulse was 124 to the minute. There was no tremor of the hands, and on examining the axillæ I found them normal. At the site of the thyroid gland were tumors the size of an egg, on either side, easily movable and ascending when she swallowed. On examining the abdomen, I found it somewhat distended and extremely tympanitic, while in the pelvis was an irregular mass connected with the uterus, evidently a myoma of the uterus, and about the size of a closed fist. The adnexa were not peculiar. There was an extensive laceration of the perineum, with a marked cystocele.

She had come down from Canada to have her goiter removed, and the goiter was the conspicuous lesion which

appeared to me most worthy of treatment. Two days later I operated on Mrs. Holly, and excised a cystic goiter occupying both lobes and the isthmus of the thyroid. The mass was horseshoe shaped, with a large middle lobe. I excised all three of the lobes, but left adherent a considerable amount of retrothyroid tissue, containing the parathyroid glandules. The hemorrhage was inconsiderable and the operation a simple one. Within two weeks she recovered completely from this ordeal.[1]

[1] The removal of a moderately enlarged thyroid of the cystic type is not difficult, and requires no special knowledge or skill, except that the surgeon must bear in mind the necessity of saving the parathyroids, while he must avoid carefully injury to the recurrent laryngeal nerves. The transverse Kocher incision is the best incision to use, perhaps, as it permits of a wide exposure and ready dissection of the muscles overlying the gland.

I dismissed Mrs. Holly with the comfortable assurance that I had done everything necessary for her. One month later, however, she visited me again. The pulse which had been noted at 124 when I first saw her was now 130. Her face was anxious, there was some tremor of the hands, and she complained of increasing lassitude and dyspepsia. It seemed incredible that we could be dealing with a Graves' disease, as the histology of the excised thyroid was typical of cystic goiter. On careful inquiry of the patient, however, I was led to reconsider the conditions which she had detailed at her first visit. I had then found a slightly enlarged uterus. She now informed me that for two years before consulting me she had been troubled with frequent flowings, irregular in time and in amount, but that often she would dribble slightly for two or three consecutive months. She said that since the operation on the thyroid this flowing had increased and had begun to alarm her.

As I could find nothing more in the pelvis than I had found on my previous examination, and as the woman's age rendered suspicious the constant hemorrhage, I saw nothing

for it but to explore the pelvis through an abdominal section. Accordingly, a few days later I cut down upon the uterus, which I found to be about the size of a large fist, the fundus rather soft and boggy, the cervix torn, but the womb in no other way peculiar. As Mrs. Holly was presumably past the child-bearing period, I removed the uterus (pan-hysterectomy), and on opening it discovered in the left cornu a patch of exfoliating and easily bleeding new growth, about the size of a silver dime. The microscope showed this neoplasm to be carcinoma.

Recently the patient reported to me that she is well and that there are no evidences of further pelvic trouble. The neck also causes no inconvenience.

The interest in this case rests, of course, on the question of diagnosis and on the advisability of a double operation. It falls to every practitioner frequently to center his attention upon an obvious lesion, while he overlooks an occult but much more serious disease. One says to oneself that he will never again disregard disease of the uterus, when complicated by an overshadowing disease of the thyroid gland, but these self-promises are difficult to meet, and one must incessantly be on the alert, if he would escape the mortification of overlooking an incipient fatal disease.

Case 67. Diseases of the thyroid gland are often peculiarly misleading and difficult. Our diagnosis may be at fault, even though we have given the case most careful study, and our prognosis in the early stages of certain goiters is frequently unreliable. The following brief report of a case illustrates this point.

On the 27th of April, 1908, a physician who had made a special study of certain forms of goiter referred to me Mrs. B. N. Hartwell, thirty-four years of age, with the statement that she stood in need of an immediate operation. Mrs. Hartwell was the wife of a physician in active practice and of large experience. She had always been well; in every way vigorous, steady and efficient. She stated that four weeks before I saw her she noticed for the first time a swelling of the neck. She said that this swelling had increased rapidly in size; that almost coincidently her eyes had begun to protrude; that she became the victim of an exhausting insomnia; that she suffered from distaste for food, associated with an obstinate diarrhea; that she was continually and extremely nervous, and that she felt herself to be growing rapidly ill.

On examining Mrs. Hartwell, I found that her statement regarding her physical condition was fairly accurate. There was an obvious enlargement of the left lobe of the thyroid, the tumor being about the size of a small hen's egg. There was also a noticeable protrusion of both eyes, with lagging of the lids and difficulty in accommodation. She was flushed, and perspired easily; she was haggard and anxious looking, and appeared decidedly emaciated. The heart was beating at 120, and was accelerated to 140 on the slightest exertion. It did not seem to be enlarged, however, and there was no evidence in it of any organic change. Here was a case which was obviously one of acute Graves' disease. Nearly all the classical symptoms were present and the progress of the ailment was alarming. My consultant had sent the patient to me for an immediate operation, and he felt that temporizing measures would be futile. My own judgment coincided with his in the main, except that I hesitate always to operate on the most severe acute cases without giving

them the benefit of a few days' rest, and watching the effect. In this particular case, moreover, both Dr. Hartwell and his wife urged that an immediate operation would be extremely inconvenient, and asked that it might be postponed for at least a week. Dr. Hartwell promised that he would send his wife to a sanatorium, where she might be under the most careful observation and have the benefit of an absolute rest cure. I consented to this arrangement on the understanding that should the symptoms increase I should be notified at once.

I heard nothing more from this patient for two weeks. At the end of that time I was surprised and gratified to receive a long and satisfactory letter from Dr. Hartwell. He reported to me that apparently as a result of the rest cure his wife's goiter had so decreased in size as to be barely perceptible, that her eye symptoms had practically disappeared, and that she was freed of all her other distressing symptoms. She remained for some weeks longer in the sanatorium. During the past three years I have had occasional reports from this case, all of them satisfactory and indicating that there has been no return of serious symptoms.

Case 68. Mrs. A. Sylvester was a woman of forty-two. She had behind her a long surgical history,— operations for salpingitis, for retroperitoneal cyst, for ovaritis,— but in spite of these serious diseases and operations, which occupied many years of her younger life, she emerged strong and vigorous. At the age of thirty-seven, however, she consulted her physician for what appeared to be a trifling heart lesion, for she found herself troubled with occasional dyspnea on exertion. Her physician discovered a slight mitral leak and some dilatation of the heart. Careful treatment and prolonged rest resulted in no benefit; gradually there developed further a constant distressing dyspepsia, pain and nausea after eating and a state of continual apprehension. These symptoms persisted for two years, when there developed further a mild, bilateral tremor of the fingers. At this stage she consulted me, on the advice of her physician, and I was able to suggest the diagnosis of exophthalmic goiter. Even so, the diagnosis was by no means assured, for no enlargement of the thyroid was evident, nor were there marked eye symptoms, while the heart rate rarely went above 80. We continued to treat her as a cardiac case only — bearing in mind the possibility of Graves' disease — for another year, when within a month there developed a series of characteristic symptoms: the thyroid gland became enlarged, with a typical thrill; the eyes gradually became prominent, with lagging of both lids and widening of the palpebral fissure; and tachycardia became pronounced, the rate of the heart ranging between 110 and 130.

Here was a case which, in spite of its gradual onset, seemed suitable for immediate and vigorous medical treatment. Accordingly, we instituted the use of hydrobromate of quinine, neutral, in 5-gr. capsules, three times a day, and continued the medication without intermission for fifteen months. During the early months of treatment the patient experienced great relief; her apprehension vanished her thyroid tumor became somewhat smaller, the heart action became slower and her general sense of improvement marked. Such was her state twelve months after the be-

ginning of the quinine treatment. She was not well, however, and her condition of instability became especially apparent at that time through the accident of a serious grief; a favorite sister became ill, and, after a month's extreme suffering, died, under the constant watchfulness of our patient. The strain and anxiety of this experience renewed at once, and markedly, the Graves' symptoms. Within a very few weeks, from the state of quiescence I have described, all her discomforts reappeared; the eyes became prominent and anxious, with their associated abnormal lid phenomena; her tachycardia returned; the heart became irregular; dyspnea became extreme; she was troubled with a constant diarrhea and distaste for food; profuse sweating became pronounced; the tremor returned in force; and the right lobe of the thyroid doubled in size.

Now the case presented all the typical symptoms of acute Graves' disease, and demanded, apparently, most energetic treatment. Fortunately, during the whole of this period she had been under constant medical care and I had seen her myself once a month for more than a year. The hydrobromate of quinine appeared to be no longer useful, and, in view of the rapid development of her acute symptoms, it seemed wise to me to undertake a radical operation; at the same time, in view of her alarming psychic state, I made every attempt to bring her to the operation in a calm frame of mind. I believe firmly in the value of Crile's suggestion regarding psychic influences in acute Graves' disease, and in the importance of bringing the patient to operation practically without her knowledge. In the present case I followed the plan which I always institute in similar acute cases. The probability of our doing an operation was explained to the patient and her consent to it was secured, as well as the consent of her relatives, but the exact time of the operation was not set, nor was the operation explained to her as inevitable. I sent her to a quiet private hospital, confined her to her room, with a congenial nurse, and kept her there, resting and closely observed, for ten days. She spent her time in bed. I was able to relieve the sleeplessness from which she suffered by the liberal

use of bromide of strontium, and, through the inhalation of various volatile oils and colognes, to suggest to her the possibility of improvement. During those ten days she was treated every morning by inhaling either nitrous oxide, eucalyptus, alcohol, spirits of camphor, ether or cologne, all in small, harmless amounts and freely mixed with air. In this way she acquired the idea of taking inhalations without the slightest terror or distress.

The principle of this treatment, as enunciated by Crile, rests on the following proposition: We know that the acute phenomena of Graves' disease are due to the abundant outpouring of the thyroid gland secretion into the lymphatics and so into the general circulation; we know that this outpouring can be increased by such stimuli as fear, anxiety and even mirth, but fear and anxiety are especially deleterious. Clinical evidence shows that the ordinary preparation for operation and the giving of ether have, through the stimulus of fear, more than once killed a patient, from the sudden resulting outpouring of thyroid intoxicants, without any operation having been done. If, then, we can bring the patient to the operation, can produce anesthesia and can operate without altering the equanimity of the patient's mental attitude, we are convinced that we then operate under the most favorable conditions.

I followed this method with the patient under discussion. On the morning set apart for the operation she realized no change in the ordinary routine. She was indeed given a hypodermic of morphia, but she had been given hypodermics of sterilized water daily, so that a hypodermic of morphia impressed her mind not at all. An hour after the hypodermic, when she was in a calm and untroubled state, I myself, as had been my custom, entered her room and proceeded with the anesthetic, giving her first a few whiffs of cologne, then an abundant inhalation of nitrous oxide, with a little oxygen, and then, when consciousness was gone, had the anesthesia carried on by ether. This was more than a year ago. My present custom is to carry the patient through the operation with nitrous oxide and oxygen, as I am convinced that thus her resistance can be kept nearest

to its normal. The patient was carried, anesthetized, to the operating room, and these interesting facts were noted: Before taking her anesthetic her pulse had been 110, when completely anesthetized her pulse was 112; during the removal of the gland her pulse varied between 100 and 110; half an hour after her return to her room, and while recovering from the anesthetic, her pulse reached 120, but three hours later it had fallen to 90.

This is in notable contrast with the ordinary experience of bringing a terrified patient to the operation, when during that operation we note a steadily rising pulse and a condition often of great gravity before the recovery from ether.

The operation in the present case was a simple one; it consisted in removing the left lobe of the thyroid, stripping the posterior capsule after the method of C. H. Mayo, in the removal of the isthmus and the removal of about one third of the right lobe.

After the operation, and with the patient's recovery from ether, all acute interest in the case ceased; though one was struck, as one always is in satisfactory cases, to observe her rapid and complete recovery of health. The first noticeable change was the loss of peevish irritability which had characterized her before. She was relatively calm and tranquil after the operation, and two days later had ceased entirely to complain of any operative sore throat and pain in her neck. Coincidently, one observed a steadying of the pulse and a gradual decline in its rate; the tremor also abated rapidly; dyspnea was never again observed; the sweating disappeared, and at the end of ten days her digestive disorders were greatly improved. The wound healed promptly and never disturbed us. The most noticeable fact, however, about this case, as about all successful cases, was the calm, happy and tranquil attitude of the patient herself. One may not in words clearly define this change, but it is so rapid and so striking in all successful cases that it suggests the relief brought by the timely and appropriate use of morphia to a person in pain and terror. It is the reverse of euthanasia; it is the confident return to a cheerful and comfortable life.

The operation I have described was done some eight months ago, and I have seen the patient four times since she left the hospital. It is too early as yet to pronounce her permanently cured; indeed, one symptom still remains, — a slight exophthalmos,— but in all other respects she appears and feels absolutely well and goes about her work in life with a vigor and a cheerfulness which she had not known for five years.

This case, in its later developments, was a typical acute Graves', and in its ready yielding to treatment illustrates admirably the value of operation in proper cases. In no way was it especially remarkable except in the long and gradual onset of the symptoms and in the sudden accession of serious symptoms on the experience of a depressing grief.

Case 69. At the age of twenty-six, Annie McPhee was a pronounced "neurasthenic." She was a housemaid, who had been obliged to give up her work. She lived in fear of some operation, its nature unknown. She complained bitterly of headaches, of constipation, of distress after eating, of blurring of vision, of great nervousness, of insomnia, and of sundry indefinite pains in her chest, abdomen and legs. She felt that she was going into a decline, and she was extremely despondent. This patient had been treated for many years for neurasthenia, and had consumed countless drugs; she had been sent away on long vacations; she had been referred to a sanatorium; but all without avail. Her most pronounced symptoms appeared to be digestive, and it was with the thought of some digestive disturbance that I examined her.

She was a young woman who had had no catamenia for three years. She was anxious of aspect and wept easily. As she entered my office I noticed that her gait was slow, her expression timid, her attitude shrinking and her posture faulty. She stood with protruding shoulders, flattened back and trembling hands, which hung twitching at her sides.[1] On examining her I was at first convinced that my "snap" diagnosis would meet the bill. There seemed no question that she was suffering from a pronounced enteroptosis, doubtless congenital, exaggerated during recent years, a common cause of neurasthenic symptoms. If I had gone no further than an examination of the standing patient, I should have concluded that she was in need of treatment for the ptosis only. On investigating further, sundry other signs and symptoms were discovered. She was a hectic girl, with a slight exophthalmos. The pulse rate was 150, the pulse bounding. Her heart was dilated, the apex being in the nipple line. She flushed easily and sweated. There was an extremely marked fibrillary tremor of the extended fingers. In the neck was a tumor of the thyroid the size of a man's fist, uniform and smooth, mostly on the left side. The whole picture was one of a marked Graves' disease.[2]

[1] The appearance of this patient is almost characteristic, suggesting at once a marked form of enteroptosis. Moreover, the history of dyspepsia seemed to bear out that suggestion. Victims of marked enteroptosis assume almost invariably the faulty posture I have described. Their abdomens are long and more or less boat-shaped, protruding below the navel, while the costo-iliac space may be extremely short, owing to the downward reach of the floating ribs. All of these signs were present in the case of Miss McPhee.

[2] The possible relation between enteroptosis and Graves' disease is a problem not yet solved and subject to numerous hypotheses. The first proposition regarding the fact of enteroptosis is that it causes an intestinal stasis, associated with fermentation and a varying degree of toxemia. This proposition is proven. The further possibility, however, of a relation between the toxemia of ptosis and its effect on certain structures, such as the ductless glands, is not yet apparent. An interesting fact, however, is this, — that enlargements of the thyroid, especially enlargements of the thyroid associated with Graves' disease, are not infrequently encountered in patients who are the victims of enteroptosis. Certain students of the problem are coming to believe that Graves' disease, as well as other diseases of ductless glands, should be studied in connection with the phenomena of ptosis. I have now a series of thirteen consecutive cases of Graves' disease in women, all associated with marked enteroptosis.

At the time of Miss McPhee's consulting me I had not learned to appreciate entirely the possible significance of enteroptosis, and while I recognized its presence in the patient under discussion, I felt that the urgent and serious symptoms of Graves' disease demanded immediate treatment.

Accordingly, I sent the patient to a hospital, and instituted a short course of rest treatment, with the purpose of operating upon the gland by the method of Crile. This method consists in " stealing away " the gland. As is well known, Crile's proposition rests on the fact that the psychic influences surrounding a surgical operation, the terror and the anxiety caused thereby, will almost always exaggerate the serious symptoms of acute Graves' disease. It is well known that Graves' patients anticipating an oper-

ation are apt to become worse; that their pulse rate runs up, their temperature is constantly high, and that their other symptoms grow rapidly more and more troublesome. With the object of saving this patient anxiety, and bringing her in a proper state to the operation, I followed Crile's suggestion of keeping her quiet for a number of days, employing bromides for sleep, and using a variety of inhalations daily, which should accustom her to the idea of taking an anesthetic. Although I had this patient's consent to an operation, I had not assured her of its being inevitable, nor had I suggested a day for its performance. Ten days after her removal to the hospital I found that many of her symptoms had decidedly abated; the pulse was ranging between 95 and 105, there was little or no fever, and she was sleeping fairly well. Accordingly, one morning, at the time when she usually practiced her inhalations, I substituted nitrous oxide for the customary volatile oils and air, and induced a rapid anesthesia. I then carried her to the operating room and removed the whole of the right lobe, leaving the posterior capsule; and I removed about two thirds of the left lobe.

The patient stood the operation extremely well. Her pulse, which was 100° at the beginning of her inhalations, rose to 110° only, and subsided to 90° at the close of the operation. There was no difficulty in the operative technic; the portions of the gland were readily removed and the hemorrhage was inconsiderable. The wound was closed and drained as usual.

There is nothing to record further concerning the convalescence, which was steady and satisfactory, so that at the end of two weeks the patient left the hospital greatly improved. This was by no means the end of the case, however. Miss McPhee's ptosis remained, and although her heart action was satisfactory, her dyspnea slight, and her courage and ambition good, she still suffered much from dyspepsia, from constipation, from headache and from general lassitude. These symptoms I regarded as possibly due to the underlying ptosis. I therefore had her fitted with a satisfactory abdominal support. She has worn it con-

stantly now for nearly three years. She has improved greatly in general health; she has gained thirty pounds in weight, insomnia has disappeared, her digestion is fair and her vigor excellent. She is again at work, and regards herself as relatively well.

Case 70. This case was atypical: Mrs. T. Burgess was a vigorous young woman, of active habits, some thirty-two years of age, and the mother of four children. With the exception of her obstetrical history, there was nothing in her past life of any special significance. She had always been regarded as particularly sane and well-balanced. Some two years before I saw her she suddenly became extremely nervous; within a week she took on symptoms that suggested to her physician a rapid neurotic breakdown; she was sleepless, fretful, irritable and almost impossible to live with, as her friends asserted. Within a week after the surprising development of these symptoms her physician discovered a marked tumor of the thyroid gland. There was no other evidence of hyperthyroidism, with the exception of the nervousness; there was no exophthalmos, no tachycardia or palpitation, or tremor, no digestive disturbance, no sweating; in fact, the diagnosis was founded almost solely on the nervousness and the rapidly enlarging thyroid.

The patient's physician had the courage of his convictions and his convictions were sound and accurate. Without stopping to employ drugs, and without waiting to see the development of the case, he proceeded at once to a surgical operation, and his surgical activity seems to have been justified by the results. He removed the whole of the left lobe of the thyroid, leaving, however, the isthmus, with a considerable pyramidal lobe, and the whole of the right lobe. The lobe removed was much the more affected; those parts which were left seemed to be but slightly hypertrophied.

Mrs. Burgess promptly recovered from the operation and promptly regained her normal health. Her nervousness disappeared, and her usual cheerful and equable temperament was restored to her. Her husband's later account to me of the year which followed was encouraging, if it had not been pathetic. At any rate, the operation showed brilliantly the immediate relief of cutting out a greatly active gland which obviously was pouring toxins into the patient's organism. Mrs. Burgess's after-history, however, was stormy and instructive. Her symptoms of hyperthyroidism gradually

returned after a year and became more settled and more pronounced than before. Not only was she the victim of an intense nervousness on this second occasion, but she developed many of the classical symptoms of Graves' disease; her eyes became prominent, with the usual associated lid symptoms; the remaining lobes of the gland became enlarged to about four times their normal size; tachycardia developed, though not in an extreme degree, but her pulse came to range between 100 and 110; she became the victim of dyspnea and palpitation, while her digestive disturbances were poignant,— pain after food, eructations and constant diarrhea,— associated also with rapid emaciation. Such was her condition when she consulted me, some fourteen months after the first operation.

I endeavored for some time to relieve her symptoms and to build her up by the use of hydrobromate of quinine, but at the end of eight weeks she was little improved, and the outlook began to appear very serious. Meantime her husband and her physician, who had performed the first operation, both urged me strongly to proceed with a second operation. It seemed to them that the failure of the first operation to effect a cure was due to the incompleteness of the work. It was said, with apparent justice, that much more of the affected thyroid should have been removed. At this time, that is to say, immediately before my own operation, which I undertook with some hesitation, the patient, while extremely ill in the thyroid sense, seemed to be an excellent surgical risk. She had herself well in hand and exhibited little of the terror and perturbation which these people usually show when an operation is anticipated; indeed, it did not appear to me that my usual course of psychic treatment was indicated; the patient was so perfectly familiar with her coming ordeal, and so keenly intelligent about preparing for it, that I thought it best to consult her about the day and the circumstances of the operation.

On the appointed day she walked to the operating room herself to take her anesthetic, and appeared reasonably placid. Her pulse was 106, of fair quality, but slightly

intermittent. There were no evidences of degenerative changes in the heart or nervous system, though a slight, hemic, mitral murmur was obvious; the heart, however, was not enlarged. I anesthetized this patient with gas and oxygen with the greatest immediate success. The combination of these agents is usually peculiarly effective in cases of Graves' disease. At the same time, in order to block, so far as possible, the effects of hyperthyroidism, I followed the later suggestion of Crile and infiltrated the skin about the tumor thoroughly with a 1% cocaine solution. I found the operation of thyroidectomy in this case unusually difficult. The previous operation had had the common effect of filling the operative field with extensive and dense scar tissue, through which there was an abundant blood supply. This dissection was most painstaking and bloody, though the total amount of hemorrhage or of blood lost was inconsiderable, I am convinced. At one time I counted 47 hemostatic forceps in the field of operation, and I am sure there must have been twice that number before the operation was completed. All this, of course, shows the difficulty of the operation and its length. The thyroid lobes seemed everywhere closely adherent to the surrounding structures. I found the stump of the old left lobe which had been removed, and proceeding thence I took out the somewhat enlarged pyramidal lobe and about half of the enlarged right lobe. I assured myself by this method — that is, by slicing laterally the right lobe — that the parathyroid glandules were not disturbed. To the same end, the blood vessels were seized and controlled within the substance of the gland itself. The operation occupied about thirty-five minutes and was extremely tedious; the patient bore it well, however; her pulse rose but little, and while the stitches were being put in it was counted at 112. While she was recovering from the anesthetic, that is, fifteen minutes later, her pulse had sunk to 100, and all promised well.

Every reasonable operative precaution had been taken to avoid increasing the hyperthyroidism. In spite of the dense adhesions about the gland, that organ had been handled

very little, while after the operation abundant drainage was provided. Even so, one recalls with interest Crile's assertion, based on numerous investigations and experiments, that the escape of thyroid secretion during the operation has little or nothing to do with post-operative hyperthyroidism.

Trouble began immediately after our patient was put to bed. She was the victim of an intense and prolonged nausea, vomiting frequently and painfully for twelve hours. She awoke to consciousness in a state of excessive irritability, throwing herself about the bed, demanding to be taken up, crying out for the nurse every two or three minutes. continually asking for ease from her discomfort, a discomfort which she failed to describe; her apprehension became painful and extreme, her agitation seemed almost maniacal, and her former tranquillity was so far abolished that she complained bitterly and continually of her attendants and of the nature of her treatment. She bewailed the fact that she had submitted to a second operation, and assured us continually that she was about to die. At the end of twelve hours the reasonably slow and steady pulse had risen irregularly to 130 and 140 and the temperature to 103°; the heart's action became embarrassed, intermittent and irregular; a rapid cardiac dilatation supervened; the patient was bathed in sweat; her exophthalmos became exaggerated in appearance and her misery almost indescribable. In other words, here was presented a picture of extreme and grave thyroid poisoning, such a picture as one sees in the most advanced cases of Graves' disease immediately before death; indeed, death was imminent in the case of this unfortunate patient.

I attempted in every way to relieve her misery by the use of appropriate drugs, but the rapid deterioration of her heart seemed to render them ineffective; opium alone gave her some slight comfort.

The situation was such as we used commonly to encounter, after operating for Graves' disease two or three years ago, before the present effective technic had been devised.

The patient sank rapidly under her accumulated suffer-

ings and died some thirty-six hours after the operation. She died of acute hyperthyroidism.

The case in its development and in its early features was conspicuously atypical, and although during that interval between the first and second operations characteristic symptoms accumulated, so that the case became almost classical in its appearance, still the condition at no time was regarded as serious. One cannot but ask oneself what would have happened had no operation been done. In spite of the futility of this question, one cannot but feel that had no second operation been done the patient must have continued on the edge of a volcano, and that at any time, almost, some slightest excitement or stimulus might have thrown her into a state of advanced hyperthyroidism from which she could not have been rescued. Looking back at my own relation to her illness, that is, during the last two months of her life, and at the course followed, I believe now that I should not have dallied with drugs, but should have followed the example of her first surgeon and operated immediately after she consulted me.

Case 71. Several times during the years 1908 and 1909 I was consulted by a physician in Lynn regarding Mrs. J. M. Brattle, thirty-five years of age, whose condition troubled him a good deal. He described her as an active, hard-working woman, who did her own housework and occasionally performed the duties of an attendant nurse. In 1906 she had appendicitis, but no operation was done, and there appeared to have been no recurrence. Moreover, her bowels were now regular and her appetite good. When I was first consulted she had been married ten years, to an elderly man, a janitor and night watchman, whose vocation and addiction to alcohol disturbed her peace continually. She was never pregnant, but had frequent painful catamenia. In 1905 Mrs. Brattle first noticed that her neck was enlarging, and was told that she was suffering from tuberculous adenitis. She was also told that she had Hodgkin's disease, that she had elephantiasis, that she had abscesses resulting from gumboils, and various other lesions. As the swelling occasioned her little trouble and no alarming symptoms supervened, she conceived a contempt for the various persons who made these diagnoses, until she fell into the hands of my friendly consultant. During the few years before I saw her she had grown excessively nervous. Finally, on being told that she had a goiter, she applied for treatment to a large municipal hospital in Boston. There she was put on tonic doses of hydrobromate of quinine, with a marked improvement of her symptoms for awhile; but in spite of the fact that she persisted in her treatment and attended regularly the hospital clinic, she had seen no improvement for about a year. She said further that she had frequent headaches, distressing shortness of breath on exertion, and was extremely apprehensive.[1]

Mrs. Brattle eventually consulted me in person on the 26th of January, 1910. She was a well-developed, sprightly looking woman, handsome, ruddy and active, and extremely intelligent. Her weight was one hundred and forty-two pounds, and she said that she had lost forty pounds during the preceding year, which seemed highly improbable. The heart was not enlarged and there was

no endocarditis apparent; the rate was 104. Her eyes were not peculiar. There was a marked fibrillary tremor of the fingers and tongue, and a moderate enlargement of the left lobe of the thyroid, which was about the size of a small lemon, movable and soft,— presumably hyperplasia of the thyroid gland. In view of the long course of the disease and the fact that she had already experimented with excellent medical treatment, I advised operation,— excision of the left lobe of the thyroid, with the isthmus.

I saw no more of Mrs. Brattle for a month, when she reported to me that she was too busy to take out time for an operation, and had decided to go on as she was.[2] Early in April, however, she again consulted me, and said she was no better and that she had decided to have an operation done. Accordingly, she entered a hospital, where I operated on the 12th of April. The dissection proved to be rather interesting. In the left lobe of the thyroid was a cyst about the size of a bantam's egg, with very little thyroid tissue about it.[3] The left lobe, accordingly, was removed, except for a small amount of tissue at the upper pole. The right lobe of the gland was found to be hyperplastic and about twice the normal size. One half of this lobe was removed with difficulty and with a considerable hemorrhage.

The operation proved successful and the patient has remained well. She rallied promptly from the shock, and went home at the end of two weeks. The pulse rate returned to 80 in the course of a month, and has remained reasonably low. Her other symptoms gradually disappeared, and as her eyes had never been troublesome she now seems completely well.[4]

[1] The reader who is familiar with the usual symptoms of Graves' disease will have little difficulty in making a proper diagnosis from the above symptoms. The usual difficulty in diagnosticating Graves' disease is inability to discover the cardinal symptoms. Physicians should remember, however, that all of the cardinal symptoms, especially the classical symptoms exophthalmos, goiter and tachycardia, are not always present together. I lay great stress

on nervousness, apprehension and tremor. When these are associated with a goiter, especially if tachycardia also develop, one should name the group of symptoms Graves' disease without further question.

[2] This sort of indecision and willingness to postpone an operation is extremely common in these cases of Graves' disease. For one reason, the patients are apprehensive, but often fail to recognize the gravity of their own condition. In the second place, we are not yet in a position to promise them a sure cure from operation. That is the weakness of the surgical position at present. We can say that between seventy and eighty per cent of the cases operated upon seem to be permanently cured, but patients ask for something better than that.

[3] This cyst represents the cystic degeneration of a hyperplastic goiter, with which the pathologists are familiar. It signifies a degeneration of the gland. If this were all, one would expect an amelioration in the symptoms of hyperthyroidism; indeed, that amelioration frequently takes place. Not only may the gland so far degenerate as to cease to give hyperthyroid symptoms, but it may go on to the point of great destruction of gland tissue, so that the reverse of hyperthyroidism is established, and the patient becomes eventually the subject of a myxedema. These are the cases described as difficult by Beebe and Rogers, — the cases yielding slowly, if at all, to serum therapy, and necessitating medication by dessicated thyroids in conjunction with the serum therapy. It would appear that the prognosis in these cases under serum and thyroid therapy is extremely doubtful.

[4] Be it remembered that the eye symptoms, in ordinary cases of Graves' disease operated upon, are the last to disappear.

[Dr. William F. Whitney's report on this specimen is not uninteresting: "The specimen consists of a portion of a cystic tumor from the thyroid, and a part of a lobe from the other side. Microscopic examination of the cyst wall showed large, dilated follicles filled with dense eosin staining colloid. Examination of the other lobe showed a similar condition, but without any signs of pressure. Diagnosis: intra-alveolar hypertrophy."]

Case 72. The following case, of unusual severity, is worth recording, if only as an example of the exigencies of practice in certain alarming toxemias.

Miss Annie White was a strong, well girl up to the age of twenty-three, devoted to social life, out-of-door sports and the activities of blameless gaiety. She had had no illnesses and was without serious responsibility. She lived quietly at home with her mother, in a country town near Boston. When twenty-three she began to develop symptoms of neurasthenia; she became nervous, wakeful, easily tired and lachrymose. Accordingly, for neurasthenia she was treated with rest cures and tonics. At the end of a year she was no better. Then she began to complain of eye strain, and her physician discovered a slight exophthalmos of both eyes. He promptly made a diagnosis of Graves' disease, and put her on a variety of treatment. At the end of another year her symptoms had become worse; the exophthalmos had increased, an obvious tumor of the thyroid gland had developed, the patient was more fretful, plagued with a continual tremor of the hands, with a marked tachycardia, and with loss of weight and strength. She was then taken to consult a Boston neurologist, by whose advice, and very properly, she was put under the serum treatment of Beebe and Rogers. After nine months of such treatment, without benefit, her condition had become deplorable. At that time, on the 17th of May, 1910, she entered the Massachusetts General Hospital under my care.

In addition to the symptoms already noted, I found that she was constantly bathed in a profuse perspiration, was flushed, was the victim of an obstinate diarrhea, and was continually weeping. She wept when she was spoken to; she wept when she was left alone. She wandered aimlessly up and down the hospital corridor, crying to be taken home, and conducting herself much as a forlorn and abandoned child. At the same time she was so weak that she tottered, while her appetite was *nil* and her nutrition bad. I regarded her as a desperate and difficult case. She was put to bed for a week, was given large doses of hydrobromate of quinine, and sleep was induced by additional bromides. She was kept

quiet and isolated, with a special nurse. At the end of this time her pulse, which had been 140, had come down to 115, and she appeared somewhat more cheerful. During this week I carried on the system of fictitious inhalations, preparatory to an operation.

On the 24th of May I performed a preliminary double ligation of the superior thyroid arteries.[1] Miss White was helped by this operation, supplemented by rest and hospital care. Her agitation became much less, her sweating decreased, her pulse-rate fell to 100 and her courage was renewed. We explained to her and to her mother the nature of what had been done and the probability of having to do something further, but, with our consent, she was taken home to continue her rest cure, and to recuperate if possible.

On the 17th of August, and with the advice of her physician, Miss White consulted me again at my office. She looked slightly heavier and appeared more self-reliant than when she left the hospital, but the exophthalmos was still present, with associated lagging of the lids. She was flushed and anxious, there was a strong bruit over both lobes of the thyroid, which were enlarged to about the size of a hen's egg each; the heart was pounding and rapid, at the rate of 132; while there was a very marked fibrillary tremor of the fingers of both hands. Nevertheless, the condition was distinctly better than when I first saw her, three months earlier, and I felt that an operation was justified, although the risk was extremely great. Her family recognized the situation, and authorized me to proceed at any risk.[2]

On the 24th of August, after the usual careful preparation and an endeavor to bring the patient to the ordeal in a placid condition, I proceeded with the operation. Here are the notes from my record: "The patient was brought to the operation in excellent psychic condition, without any true appreciation of the undertaking. Her pulse was 120, temperature 100°. The anesthetic used was nitrous oxide and oxygen with occasionally a little ether. The operation lasted about forty minutes, and the patient's strength failed steadily throughout the procedure. At the end she had no pulse at the wrist, while the tripping cardiac apex registered 190.

Through the usual transverse incision the right lobe was delivered by stripping the posterior capsule. There was very slight hemorrhage. The isthmus was then dissected out, with a good deal of hemorrhage; and half of the left lobe was excised, again with considerable hemorrhage, controlled with great difficulty. The total amount of hemorrhage, however, was not excessive, and it was evident that the patient's collapse was due to the shock of the operation. The wound was closed hastily, being partially packed with gauze, owing to the emergency of the situation. When back in bed her pulse at the wrist returned, and six hours later had fallen to 160, of fair quality. Her temperature was then 101°."

Miss White's convalescence was extremely stormy, and illustrates the desperate condition which these patients may reach. The day after her operation was a bad day for her; the morning temperature, starting with 99°, rose gradually to 105° during the day; the pulse became dicrotic and irregular, varying from 130 to 180; she looked badly, was irrational and evidently in a condition of pronounced toxemia. I gave to her friends a bad prognosis. On the next day the toxemia was worse, the temperature reached 105.6°, the pulse varied from 150 to 170, and the respirations rose to 40. Notwithstanding the desperate outlook, I still had some hope, because she was able to take nourishment, passed a reasonable amount of urine and had several large movements of the bowels. The drainage from the wound was profuse. On the third day after the operation, and within a space of three hours, the patient improved so suddenly and rapidly that she was soon out of danger. The temperature fell to 100°, the pulse to 120, the respirations to 26, while her mental condition improved greatly and, from being almost in a state of coma, she became bright, interested and intelligent.[3]

[1] Ligation of the superior thyroid arteries can usually be done under cocaine, and is an extremely simple and efficient step in the treatment of goiter. I regard it rarely as curative. I employ it in mild cases and in desperate cases; in the mild cases with the hope that the decreased blood supply will tend to check the progress of the disease; in the

desperate cases merely with the hope of ameliorating the symptoms and progress of the disease, so that subsequently a more radical operation may be performed.

[2] The situation I have described is one of the most trying to which a surgeon can be subjected. He knows that he undertakes so desperate an operation with a more than even chance that the patient will not survive. He knows, at the same time, that without an operation the patient can live but a short time. If he is experienced, he knows also that in spite of his explanations the death of the patient after the operation will be surely set down to his discredit in the minds of the friends of the victim.

[3] Pathologist's report: "A whole lobe, isthmus and portion of the other lobe of a thyroid. The complete mass is 7 by 5 by 5 cm. On section the tissue is rather cellular and homogeneous with comparatively little colloid. Microscopical examination shows a very marked increase in fibrous tissue between the lobules. In this fibrous tissue are extremely large blood vessels and few lymph spaces. Within this fibrous tissue bands of epithelium found, from the acini, seem to be undergoing degenerative changes. The cells are comparatively few, small and closely packed. The lumina have frequently disappeared. In some areas, however, the acini are much dilated and show some colloid, but the epithelial cells lining these spaces are flattened and inactive in appearance. Some of the vessels in the fibrous tissue bands show thrombosis. In a few areas, however, this picture is entirely changed and the fibrous tissue is small in amount, the acini large, with considerable colloid, and the cells active in appearance. In these areas also there is considerable hyperplasia of the epithelium. The specimen appears to be one in which the gland is actively functioning in only a few areas. Most of it is given over to sclerotic and degenerative changes. Goiter."

Miss White made an excellent operative recovery, and left the hospital two weeks after the operation. Two months later she reported in person to me. The improvement in her condition was striking. Her eyes were less prominent, the pulse ranged between 85 and 90, tremor was slight, apprehension had gone. She appeared happy and rosy, was extremely cheerful and loquacious, and announced a gain of twenty-three pounds. At this writing she continues to improve, and appears now as a robust, active girl.

CHRONIC INDIGESTION.

Case 73. Daniel Saunderson was a man of twenty-eight, a farmer, who consulted me on the advice of his physician in 1904. He was sound, active and well nourished in appearance. For some five years his friends had noticed that his disposition was changing. Previously cheerful, acute, optimistic, he had become silent, retiring, morose. He never complained of ill-health, but it was evident that he was suffering from a mental or physical ailment. Occasionally he would go all day without food, and he was heard walking the floor at night. In the summer of 1904, he consulted me, and reluctantly stated that he had long suffered from a confirmed dyspepsia. He was constantly depressed and rendered miserable by trifles. His surroundings and daily companions had become irksome and intolerable to him, his food frequently distressed him, he was greatly troubled with eructations and constipation, and three days before he had spent a wakeful night from annoying general abdominal pain.

I had known the man for several years, and recognized the mental condition which he described. A routine examination revealed nothing except a rather marked abdominal distention, until I came to the right iliac fossa, where on deep palpation I was able to detect an apparently irritable appendix, which was quite tender on pressure. After watching the case for a couple of weeks, and finding always the tender appendix, I advised its removal. On opening the abdomen nothing abnormal was discovered except an indurated appendix, slightly swollen and adherent throughout its length to the lateral aspect of the cecum. The pathologist reported, "The appendix was seven centimeters long, of somewhat enlarged diameter, with many adhesions throughout its length; upon opening, the lumen was found to be obliterated at one end, dilated beyond, and containing thick, glairy mucus; obliterating appendicitis."

The convalescence was uneventful. The patient was out of bed on the twelfth day and went home at the end of two weeks. His dyspeptic symptoms disappeared, and the action of his bowels became normal. The most striking change was in his mental attitude. Two months after the operation he had regained his natural cheerfulness, and his friends reported that the " blues " had been banished.

Case 74. Madam Bauer, a German lady of sixty-eight, speaking rather broken English, had lived in this country some three years when she consulted me, on the 31st of December, 1905. She was a widow, and had one daughter living, a middle-aged woman. Madam Bauer was a Viennese by birth, with all the excitability and simplicity of the home-loving Austrian. For twenty-five years she had suffered more or less from dyspepsia, with occasional attacks of bloating and chronic constipation; rarely nausea and vomiting after a hearty meal, with a proclivity for Bavarian beer and a tendency to corpulence. When I was called to see her I found her in bed, but comfortable, and telling the story that she had had a bad stomach ache all night, but that the disturbance was relieved by a movement of the bowels in the morning. She was cheerful, ruddy and loquacious, but was said to be extremely despondent about her health, owing to her age and a suspected heart disease.

I found her heart slightly hypertrophied, with an unimportant mitral systolic murmur. Her chest was otherwise negative, her abdomen full and tympanitic, but soft and nowhere particularly tender except in the umbilical region.[1]

I put the patient on a carefully restricted diet and kept her in bed for a few days, when she said that she felt practically well and wished to get up. There was still some soreness in the abdomen, however, slightly to the right of the navel, and a sense of great prostration when she stood.

Two weeks after my first interview with her she suffered a slight relapse, the pain to the right of the umbilical region returning, with a mild run of fever, reaching 100° in the evening. The next day she was active. Three or four days later she said that she felt perfectly comfortable, but was growing weaker. I could discover no obvious abnormality. She took nourishment well, but on slight exertion vomited. Her bowels moved daily and freely, without pain. On the 16th of January, seventeen days after my first visit, all tenderness had greatly diminished, though the nausea and vomiting on slight exertion persisted. She subsisted on a liquid diet. At this time I made a further and more careful examination of the abdomen, which I was enabled to do,

as pain and tenderness had practically disappeared. I now found for the first time a mass the size of a pigeon's egg in the region of the cecum. It was movable, tender, firm and slightly nodular. I was obliged to reverse my former optimistic prognosis, and inform the patient's family that she probably had a malignant disease of the intestine. At the request of the family, I called in consultation a well-known internist, who saw the patient twice in the course of a week. He found the right-sided mass which I have described, and after his first visit was reasonably confident that it was malignant. He suggested the employment of high oil enemata, in order to clear the colon. On his second visit he found the mass again. It seemed to him somewhat larger than before, and he asserted that he could detect metastatic masses in the liver and omentum. He was then positive that we were dealing with malignant disease. Dissatisfied with this opinion, the family then named and asked me to call another consultant, a man in whom I had every confidence. My second consultant made a careful examination of the stools, and, as he was unable to detect occult blood, stated that he doubted the diagnosis of malignancy and suggested that we were dealing with a chronic appendicitis.

The facts of the case were laid before the patient and her friends, the uncertainty of the diagnosis was asserted, and an exploratory operation was advised. To this, after much delay, they consented.[2]

[1] While the sort of history that I have given of the physical examination suggests the possibility of chronic appendicitis, one must not forget that malignant disease of the intestines is to be regarded as probable in a person sixty-eight years of age, and appendicitis less probable.

[2] I am convinced that the resource of exploration is turned to with lamentable infrequency. A considerable experience with obscure disease of the abdomen has shown me that great numbers of cases are proven harmless in which, without the exploration, a fatal prognosis would have been given, and the patient doomed to a long course of misery and anxiety. Exploratory section should be made through a small incision, when, if no further operation is done the

incision can be closed firmly and the patient gotten out of bed within three or four days.

On the 13th of February, some six weeks after my first visit, I operated on Madam Bauer, and explored thoroughly the abdomen. The abdominal wall was very fat, and I found unusual masses of fat in the mesentery, but no sign of malignant metastasis was there. These masses doubtless were those supposed tumors felt by my first consultant. The gall bladder was somewhat distended, but there was no growth in the liver, nor was the liver enlarged. The uterus was senile, very high and movable, with its fundus lying in the neighborhood of the cecum. It was about half the size of a closed fist, round and hard, suggesting a solid tumor of some sort. Close to the fundus of the uterus lay the appendix, injected, adherent to the mesentery, and the obvious source of the patient's symptoms. The tumor which we had felt was undoubtedly the fundus of the uterus.

The adnexa were not abnormal, and we found no tumor of the intestines. I therefore made a diagnosis of small myoma of the uterus, with chronic, obliterative appendicitis. I removed the appendix and closed tightly the abdominal wound. The patient recovered promptly from her ether, and went on to an excellent recovery, leaving the hospital at the end of a month. I have heard from her several times in the course of the last five years, and learn that she is in excellent health and has had no recurrence of her bad symptoms.

This case illustrates one of the many obscure abdominal disturbances for which a chronic appendicitis may be mistaken.

Case 75. The subject of this problem was a happily married woman of thirty-five, the wife of a schoolmaster, living in the suburbs of Boston, Mrs. M. W. Theodore. She was the mother of two vigorous boys, ten and twelve years of age. I was asked to see her in consultation in October, 1906. The only important feature of her previous history lay in the statement that she had been for a long time the victim of a pronounced uterine displacement, which was corrected by a pessary. She had regarded herself as well until within four weeks, when she was suddenly seized with acute pain and tenderness in the right metatarsal region, with a sudden rise of temperature to 103°. She was treated by her family physician and by a competent orthopedic surgeon for acute flat-foot, but the pain persisted. In the course of two weeks her shoulders, elbows and left ankle had become involved in the pain, and she developed an acute multiple arthritis, without any obvious source of infection. The disease ran on, with little abatement, up to the time when I saw her, with pain, fever and wasting. On the morning of my visit Mrs. Theodore informed me that she felt nearly free from pain, for the first time. Her temperature was then 102°. However, she asserted that she was better, and she was said to look better. I learned that on the day previous she had had a leukocyte count of 27,000.

I found the patient to be a tired, middle-aged appearing woman, seeming somewhat older than her years, hectic, argumentative, highly intelligent, emaciated. There was nothing in the throat to account for her condition.[1] Her heart and lungs were not abnormal, nor were the kidneys. My careful physical examination revealed at first nothing peculiar beyond a slight grating in the right metatarsal joints. The abdomen was flat though the colonic tympany was somewhat low.[2] The uterus was retrocessed, sagging feebly in the pelvis, and about the size of a closed fist. Rectal examination revealed a tight sphincter and a collapsed rectal ampulla. The patient did not look very ill. It seemed to me at that time that she was probably beginning to mend, and that general treatment alone was indicated. I advised

therefore, open air, sunlight, forced feeding, abundance of water drinking and nux vomica, and gave a good prognosis. In the course of two months she recovered her usual health, which was not very vigorous.

One year later I saw Mrs. Theodore again with her physician. She informed me that since her convalescence of the year before she had had a troublesome dyspepsia, with occasional heartburn and eructations of gas after eating. At the time of this visit she had been in bed for five days, with slight nagging pains in the cecal region, with obstinate constipation, slight nausea, and a temperature ranging from 99° to 101°, pulse from 90 to 100. She thought, but was not sure, that this was the third similar attack that she had had within five years. Menstruation, which had begun that morning, appeared to bring with it relief from pain. Her leukocyte count was 18,000. I made a diagnosis of recurring appendicitis, and advised an operation in the interval between attacks.[3]

Three months later, on the 10th of February, 1908, I operated on this patient. Since my last interview with her she had been feeble, with occasional right pelvic pains and loss of appetite, though there had been no distinct attack of appendicitis. I opened her abdomen through the low McBurney incision.[4]

[1] As is well known, infected tonsils are a common source of a toxemia which may attack several joints.

[2] Low colonic tympany in a patient bedridden suggests the possibility of enteroptosis, with possible fecal stasis as a source of infection.

[3] A relapsing or chronic appendicitis, associated with ptosis and recurring attacks of arthritis, is an extremely familiar combination. I suspect that the primary condition is the ptosis, which, through interference with the blood supply of the appendix, keeps that organ in a state of impaired nutrition.

[4] The low McBurney incision is too little used. Its advantages are these: 1. It is low in the abdomen, starting half an inch below the anterior superior spine and running parallel to Poupart's ligament for about three inches. 2. It exposes the abdominal muscles at a point where they run

more nearly parallel than higher in the abdomen, so that splitting them widely is easy and secures a free exposure of the bowel. 3. At this point the caput and appendix are usually found, the appendix often popping into the wound as soon as the peritoneum is opened. 4. This prominence of the appendix renders its delivery and excision extremely easy, and obviates that pulling on the bowel and on the mesentery which is so often followed by temporary paralysis and stasis during convalescence. 5. The closure of the wound is easy and satisfactory.

The appendix was adherent to the cecum; it was kinked and thickened. I removed it. The uterus, now about the size of two fists,— distinctly larger than I had made out before,— was of symmetrical shape, somewhat boggy, and contained an intramural myoma. On the right side of the pelvis was a tubo-ovarian cyst, the size of a bantam's egg, with signs of old inflammation.

The condition of the uterus presented a new problem, such as a surgeon discovers not infrequently at operation. Should I remove it, or should I not? The patient had not been warned of a possible hysterectomy. I therefore consulted with her husband, who was certain that she would not wish the uterus removed. I agreed with him that it would be reasonably safe to leave it untouched. The patient was approaching the end of the child-bearing period, the uterus had given her no trouble for many years, and it was safe to assume that it might be left without great risk of future trouble. Accordingly, I removed the tubo-ovarian cyst only, secured the uterus high in the abdomen by ventro-suspension and closed the abdominal wound. All this was done through the low McBurney incision, which can be easily enlarged and the right rectus muscle pulled inward, so as to provide a surprisingly wide field in which to work.

Mrs. Theodore rallied well. Two days after the operation, however, she had a distressing attack of tachycardia, with sweating and tremor. At the same time it seemed as though there were a suspicious enlargement of the right thyroid lobe. These symptoms and this apparently enlarged thyroid disappeared entirely after two days. She had had no

sign of Graves' disease previously, but I still think that the condition was one of acute and quickly subsiding hyperthyroidism.

The operation did everything for the patient that we expected. For the past four years she has remained in excellent health, and has suffered no inconvenience from the uterus,— catamenia being regular and the flow moderate, — nor has tachycardia recurred.

"INDIGESTION."

Case 76. The subject of this history, Sheffield Urie, was a well-known business man of Worcester, much in the public eye, and his state of health was a matter of concern to great numbers of persons. In 1908 he was forty-nine years old, and was a tired man. He had always been conspicuous as a brilliant writer and speaker and a master of his vocation, but he had led an indiscreet life. Highly intelligent, animated, persuasive and often dogmatic, he had early fallen into the habit of over-stimulating with alcohol, and he smoked to excess. In his early history there was no serious illness to record except a frontal sinus disease, from which he sufferred while in college. This was cured after a duration of some five years. As he approached middle age, Mr. Urie became a heavy eater, and his weight increased from 140 to 210 pounds. He was five feet ten inches in height. For some years prior to 1908 I had seen him frequently in a friendly way, and he had consulted me occasionally and casually about his condition. He was subject to severe "head-colds," to frequent attacks of bronchitis, to occasional headaches, to flushings and palpitations, and he had become extremely excitable. At the same time, he suffered occasionally from flatulence and epigastric distress, usually as a result of overeating. I was in the habit of telling him that his mode of life was indiscreet, and that he should confine himself to a simple, rigid diet, and avoid alcohol, but he was unwilling to adopt such a course. At the same time, I was never able to discover any serious organic disturbance in him. About the year 1906 I recommended to him a competent internist, and urged strongly that he consult him frequently about his health. Mr. Urie did so, but apparently disregarded the professional advice given him.

Early in 1908 Mr. Urie became the victim of severe and prostrating illness, which alarmed his friends greatly for many weeks and brought him nearly to the point of ex-

tinction. The nature of this illness was never altogether clear, even to the physicians who saw him frequently in consultation. He appeared to suffer primarily and especially from a severe general neuritis, with excessive pains in the legs, back and arms, associated with excruciating headaches. He frequently became delirious; he lost weight rapidly, and in the course of three weeks of confinement to bed had shrunk extremely. A subacute nephritis developed; sugar was found in his urine to the amount of four and five per cent. It was apparent that he was suffering from some severe toxemia, though the exact source of the poisoning was not apparent. His heart gave out and became much dilated; the mitral valve for awhile was entirely incompetent. He developed an extensive edema, and was regarded as near the point of death. This condition continued at its height for nearly six weeks; then gradually he improved; the state of the kidneys was no longer disturbing, the sugar in the urine shrank to the vanishing point, his fever disappeared, and for many weeks he suffered merely from exhaustion and neuralgic pains. His appetite did not improve, however, and long after the establishment of convalescence he tottered about his house and was driven feebly in a carriage, apparently a wreck of his former vigorous self.

The severe illness which had begun in February was acute up to the 1st of April, while from that date until the 1st of July he remained a pronounced invalid. In July he was so far improved as to go away for his health. He took a camp in northern Maine, and, attended by a competent man nurse and masseur, planned to spend two months, at least, in that favorable locality. Unexpectedly, on the afternoon of the 13th of August, he returned to his home, and summoned his physician, who sent for me. I reached him late that evening and was told the following story: One week previously, while in camp, he had a sudden attack of violent vomiting, with painful retching and considerable abdominal pain, following three days of vigorous abdominal massage, given for from one to two hours daily. For the next six days the vomiting was not repeated, but general abdominal discomfort continued, with a slight fever and extreme pros-

tration. He was constipated, and was plagued by an incessant headache. Alarmed about his condition, he broke camp and came home.

I found Mr. Urie in an excited state. He was lying propped up in bed, extremely flushed, didactic and loquacious. Though his general condition appeared fair, he was much emaciated. Examination of the urine showed little that was significant save sugar, — two per cent. The heart was acting well, was properly hypertrophied and with good compensation, although the mitral leak persisted. The abdomen was slightly distended and everywhere tympanitic, the lower portion tender, — tender especially just above the pubes, where I could feel a deep mass the size of two fists. He was not rigid and there was no muscular spasm. I made a diagnosis of acute appendicitis, with abscess, in which diagnosis my consultant concurred.[1]

In spite of the grave complications in Mr. Urie's case, it was evident that an operation must be done to relieve his present distress; otherwise, it was obvious that he would drift rapidly into a severe toxemia, from which it was unlikely that he could rally, considering his exhausted state. Accordingly, the next morning I removed him to a hospital and operated as rapidly as possible.

The nature of the anesthetic was an important feature in this case. I decided against employing ether or chloroform, but was fortunate to secure an anesthetist who gave the patient nitrous oxide and oxygen with brilliant success.[2]

I opened the abdomen immediately above the pubes, by a short, quick incision, and found the mass glued to the parietal peritoneum, with the peritoneal cavity strongly walled off. On the mass being opened, three or four ounces of extremely foul pus escaped, and a disorganized appendix appeared, gangrenous and sloughing. The stump of the appendix was tied off, the wound quickly drained, three retaining stitches were placed and the patient was returned to bed, — all in the course of fifteen minutes, — and in excellent condition. He rallied promptly from the operation and was talking rationally before reaching his room.

In the course of the operation, and while the patient was

relaxed with the anesthetic, I was able to make a fairly satisfactory examination of his abdomen. It was apparent at once that his stomach was greatly enlarged and lay low, below the navel, while the colon was distended and loaded with fluid feces.[3]

Mr. Urie rallied well from the operation and made an excellent recovery.[4] The deeply drained wound healed slowly, of course, but after three weeks the patient was able to go home, and the wound was sound in the course of two months. In spite of the serious ordeal through which he had passed, this patient was able to resume his work by the first of the following year, and is now reported to me as actively engaged in a number of financial enterprises. He wears a strongly supporting abdominal belt, eats moderately, follows the advice of his physician, and promises to continue for many years as a useful citizen.

[1] The problem presented to us was an extremely grave one. The state of the patient's heart was not especially favorable for operation, but the more serious condition of his kidneys, coupled with the fact that he was suffering from diabetes, made the outcome of an operation questionable. The operation itself doubtless might be done without serious risk, but the complicating ill effects of a general anesthetic promised to be serious.

[2] The conspicuous advantage of nitrous oxide plus oxygen over ether is that it does not diminish the patient's resistance as does ether, that it does not impair his immunity, that it does not increase the damage to diseased kidneys, and that with its cessation the patient promptly rallies, without the familiar exhausting nausea and prostration of ether anesthesia.

[3] The condition of visceral ptosis which I have described may have had an important bearing upon the patient's previous illness. An enlarged stomach, frequently associated with gastro-mesenteric ileus, which his symptoms had suggested, together with a colon low-lying and ineffectively emptying itself, may well have been the site of stored up waste and the seat of fermenting material such as we know may bring about a general toxemia, resulting in arthritis, neuritis and the involvement of various vital organs. It is not surprising that such a condition should have culminated in an acute appendicitis.

[4] Mr. Urie's wound healed with unusual rapidity for a wound so foul and serious. The healing was stimulated by the use of proper vaccines, which I employ habitually and as a routine in the convalescence after operations for acute appendicitis.

Case 77. Edward Taylor belonged to that indefinite group of individuals whom the newspapers class as "club-men." He was a person of independent means, who spent much of his time in France and England, hunting and playing tennis. While addicted to the habitual use of alcohol, he was by no means a wreck, but doubtless his habits had lowered permanently his resisting powers. To complete the picture, he informed me that although he was the father of two enterprising sons, his wife was rarely able to live with him.

In mid-June, 1907, Mr. Taylor, then forty-six years of age, came to Boston to attend the college graduation of his elder son. The night before Class Day he dined well, and retired in comfort at about midnight. An hour later he was seized with severe stomach ache, and telephoned to me for help. I was unable to go to him, but at my request Dr. T. F. Harrington saw him, and found him in the third hour of an attack of acute general abdominal pain, with slight nausea, his bowels having moved three times within two hours, as the result of large doses of salts and calomel, which the patient had taken on his own initiative.[1]

Mr. Taylor became more comfortable during the following day, but at four the subsequent morning — that is to say, about twenty-four hours from the onset of his attack — he summoned Dr. Harrington again, who found him in great pain. There was absolute intestinal obstruction and the condition appeared most grave. His temperature at that time was 99.6°, his pulse 86, small and feeble. The patient was hysterical and anxious, realizing the gravity of his condition and demanding immediate relief. I saw him with Dr. Harrington early in the morning. He was a slight, energetic man, of fair intelligence, keen-eyed and suspicious, anticipating early dissolution. He was muscular and well developed. His thoracic organs were in good condition. The whole abdomen was slightly distended, everywhere rigid, the right rectus in spasm, and pain and exquisite tenderness uniform over the whole lower portion of the belly. Pressure over the usual site of the appendix elicited little extra pain, and that, such as it was, was said

to shoot across to the sigmoid region. An examination of the rectum was negative.[2] The patient had been vomiting shortly before my arrival, but his vomiting had ceased. His temperature was 100°, pulse 110.

Here was a case obviously of some acute abdominal infection, involving extensively the peritoneum and threatening the most serious results. Whatever the local organ involved, it was evident that the disease had spread diffusely far from its original location. As appendicitis is the most common of the acute abdominal inflammations, I made a provisional diagnosis of acute appendicitis.[3]

At eleven o'clock the same morning I operated on Mr. Taylor, in a neighboring hospital. I opened the abdomen through the right rectus muscle, an incision which I now rarely use, as I find the low McBurney to be almost uniformly satisfactory. On the incision of the peritoneum, there was a sharp spurt of purulent fluid, of which, unfortunately, no culture was taken. The intestines were found everywhere deeply injected and bathed in the same foul fluid; they were distended and paralyzed. The appendix was adherent to the cecum, gangrenous and perforated. We removed it, drained the abdomen by three wicks, — one to the appendix, one to the bottom of the pelvis and one to the right flank, — and returned the patient to bed, where he lay in a state of collapse, groaning and vomiting, for many hours. He was placed in the Fowler position and proctoclysis was established.[4]

Mr. Taylor's convalescence was stormy. Rarely, in the case of a surgical patient who recovered, have I passed through so arduous and trying an ordeal as I experienced in the case of this man. His agitation and terror persisted for many days. Although I established two nurses and a competent surgical assistant at his bedside day and night, he was continually sending for me, to explain the most trifling symptoms. I have no doubt that his deplorable psychic state contributed greatly to the gravity of his convalescence. Never have I known a more unreasonable or preposterous patient. In spite of all this, however, he got well, and in the usual time. Two weeks after the operation he returned to his hotel,

and two months later he was driving his automobile and playing tennis.[5]

[1] Dosing with salts and calomel is a highly improper measure of relief for severe and protracted bellyache. No man may say that the attack is not due to some severe obstructive disease, — volvulus, mesenteric thrombosis, diverticulitis, pancreatitis, and above all, appendicitis. Drastic cathartics will serve only to increase the pain and danger of the patient. In spite of this well-recognized fact, which has been preached without cessation by intelligent surgeons for more than twenty years, one finds continually that hurried general practitioners, even to-day, resort often to salts and calomel in their treatment of the early stages of acute inflammatory abdominal disease. Such treatment is far worse than the giving of morphia. If the pain is so severe as to demand relief, morphia had best be given, though as a rule all drugs should be withheld, if possible, until a positive diagnosis is reached, or until the need of a surgical operation is established.

[2] The practitioner should make it an invariable rule to examine the rectum in cases of abdominal disease. In cases of acute infections, especially, the rectal examination often gives surprising new information, detecting tenderness, bulgings, swellings, and tumors even.

[3] Beware of confusing acute appendicitis with perforating duodenal ulcer. We have already considered this matter in connection with a previous case.

[4] Ever since J. B. Murphy gave us his method of rectal "seepage," or proctoclysis, in 1903, I have used it invariably in all cases of acute abdominal infections. My professional readers doubtless understand its significance and method of action. The slowly dropping stream of salt solution introduced into the rectum is quickly absorbed by the bowel, is passed on to the lymphatics of the peritoneum and accumulates freely in the peritoneal cavity. The Fowler position (the semi-upright posture) favors the collecting of the seepage fluid in the bottom of the pelvis. Thence this fluid, loaded with infecting organisms which it has collected, is drained away by the pelvic drain. In the case of women, I frequently lead the pelvic drain out through the vagina.

[5] We are often asked about the use of abdominal supports after these operations of extensive drainage and laceration of the abdominal wall. In fact, I feel that in these cases

an abdominal support is essential, although I never use one in cases of operation for chronic or recurrent appendicitis. After operation for the acute suppurating disease, hernia must be expected. It occurs in at least one third of the cases. I believe that a support discourages the formation of hernia.

Case 78. The intestinal disorders of children are among the difficult problems of medicine,—of children, especially, who have passed the need for infant feeding and careful dieting. There are more elements than tuberculosis, appendicitis and ptosis in the problem.

George W. Johnson, when ten years of age, was brought to me in something of an emergency. That was on the 30th of March, 1908. His mother, an extremely intelligent woman, told me a long story of his early years. She said that he had always been slight, delicate and underdeveloped; that he never had a good appetite; that his food did not seem to nourish him; that his bowels were irregular and that the movements were often undigested. At the same time, she assured me that he was a bright, intelligent and rather precocious child, who cared little for the sports of other children. In reply to my questions, she said that he frequently suffered from stomach ache, and appeared to have wind colics, relieved by enemas and by vomiting. One month before I saw him he had had a frank, acute attack of appendicitis, as his physician testified, with a week of fever, the pulse running up to 120; tenderness, rigidity and spasm low on the right side of the abdomen, and some vomiting. He recovered, however, without special treatment, and now looked forward to an "interval operation." For the past two weeks his temperature had been normal, but he had been very feeble.

I found George Johnson to be all and more than his mother described; a bright-eyed, alert, precocious child, asking impossible questions and keenly interested in his own case, but without the slightest fear of an operation or the outcome of treatment. He was short for his years, slender, sallow and emaciated, with what we are accustomed to call a tuberculous appearance. His temperature on the day of his visit to me was 100°. He was tender over the usual site of the appendix, but there were no other signs or symptoms about him upon which I could lay any special stress. I sent him to a hospital and had tuberculin tests made, but they were negative. On the next day he was more ill, prostrate, apathetic, and with an evening temperature

of 102°, while the abdominal tenderness had increased. On going over the abdomen again, however, I found no special distention, spasm or rigidity, nor could I discover a mass in the appendix region. Two days later, while the physical examination remained the same, his temperature was running high, with an excursion suggesting suppuration, and ranging from 99° in the morning to 103° in the evening. Dr. James M. Jackson saw the boy in consultation with me, but we were unable to decide upon any diagnosis beyond the presumable one of appendicitis. Two Widal tests were negative. On the next day I could make out an obscure mass below the liver, a mass which in an older person would have suggested a malignant disease of the colon.

The condition was apparently becoming desperate, and my consultant agreed with me that a hasty exploratory operation was justifiable. We had taken the blood for a third Widal test that morning, but had not yet received a report. About four o'clock in the afternoon of April 3 I opened the abdomen, through the right rectus, on a level with the umbilicus. I found the intestines normal in appearance, and a long, adherent, kinked and slightly thickened appendix, which I removed. There were considerable bunches of large lymph-nodes scattered through the mesentery, firm, smooth and not broken down. I removed one node for examination.[1] The abdominal wound was then closed quickly and the child put back to bed. He had received a minimum of ether and rallied promptly, apparently none the worse for his experience. That evening, two hours after the operation, I received a third written report from the Board of Health, stating that there was a *positive* Widal reaction in the case. This complication is not surprising, but it is a complication which must constantly be borne in mind when considering appendicitis.[2]

[1] The investigation of the abdomen up to this point suggests three things: First, an appendicitis, for, in spite of the fact that the appendix appeared negative, experience teaches that a very slightly diseased appendix may set up a severe train of symptoms in a child. Second, the enlarged nodes, with the child's general appearance and chronically

poor condition, suggest the possibility of tuberculosis. It was for this reason that I removed a node for examination. Third, the condition might well be typhoid fever. There were no rose spots and no enlargement of the spleen, nor were the stools characteristic,— indeed, the child was chronically constipated,— still, typhoid fever had to be regarded as possible.

[2] Appendicitis may co-exist with typhoid; an uncomplicated typhoid may simulate appendicitis; a typhoid with ulceration of the appendix may exist; tuberculosis and appendicitis may co-exist, and, indeed, tuberculosis, typhoid, and appendicitis may be found in the same individual. Although in the present case we were unable to demonstrate a positive tuberculosis, I felt at the time, and still feel, that there was probably a latent tuberculous infection in this boy. A microscopic report on the lymph-node states in conclusion, " The appearances are consistent with either typhoid or acute inflammation; probably typhoid."

A confirmatory positive Widal report was made two days later. The boy made an excellent recovery from the operation, and ran a very mild course of typhoid. Between three and four weeks after the operation he was discharged as well. On his return home I directed his mother to institute an out-of-doors life for him, and to keep him from school for at least six months. In the course of the past three years he has improved greatly in general condition; he is practically free from dyspeptic symptoms, and is now a vigorous, athletic school-boy.

Case 79. On the 22d of February, 1910, I was asked to see in consultation a man thirty years old, of whom his physician feared that he was suffering from an abdominal abscess. This patient, Mr. Wills, had had a long and somewhat complicated pathological history. As a boy of sixteen he suffered from an osteomyelitis near the head of the right femur. There was said to have been extensive destruction of bone, and invasion of the hip joint. He had been operated upon a number of times for the removal of sequestra and the drainage of abscesses. I myself had seen him from time to time during the previous five years, and had opened a number of abscesses. The man's health in general was good, and his reaction vigorous, so that after opening abscesses his wounds would heal promptly, and he was able to go about and lead a normal life. In the course of his bone disease, however, the right hip had become firmly ankylosed, and he always walked with a limp. However, he was well developed and nourished, and led an active, athletic life, so far as his infirmity would allow. My investigation of his case from time to time in the past had led me to believe that the acetabulum was involved in his bone disease, and that possibly the pelvis was more or less damaged.

When I was called to see Mr. Wills in February, 1910, his medical attendant informed me that he had had probably an appendicitis for six days, that the attack was fairly characteristic, with a sharp onset, accompanied by pain, nausea, cramps, obstinate constipation, slight abdominal distention and right-sided rigidity. The statement was also made that there might possibly be an abscess present.

On examining the patient, who was sitting up when I arrived, and confidently expecting a prompt subsidence of his trouble, I found him to be the robust, alert person that I had known previously. He had a temperature of 101° and a pulse of 100; the leukocyte count was 22,000. He sat in an easy-chair, with his right leg drawn up, and complained that he had no appetite. When he lay down I found that his abdomen was everywhere slightly distended, that there was a marked rigidity and spasm of the right rectus and a dull mass about the size of two fists in the right

inguinal region. A corresponding high fluctuant area could be detected by the finger in the rectum.[1]

Mr. Wills was removed to a hospital, where I operated upon him the next day. I opened the abdomen through a long, low McBurney incision immediately over the suspicious mass. I found this mass well walled off from the general abdominal cavity. Behind it lay the cecum. On opening the mass, some six ounces of foul pus were discharged, and at the bottom of the abscess cavity lay the necrotic stump of the appendix. This was tied off carefully close to the cecum. The remnants of the appendix were removed, together with two hard, fecal concretions about the size of peanuts. The wound was carefully wicked and tubed, establishing satisfactory drainage, and the abdominal wall was closed tightly about the drainage material.[2]

The patient rallied well and was comfortable in the evening. He passed through a week of the usual fluctuating temperature and uncertainty of outlook, but by the end of that time he was progressing well. In spite of this favorable start, however, the wound did not heal as was expected. A month after the operation he left the hospital, with a trifling sinus, which closed a few days later. Then at the end of two weeks he suffered a return of pain in the region of the scar, which looked red and bulging. I nicked it and allowed about an ounce of pus to escape. I inserted a wick, which was renewed frequently for many weeks. Four months after the operation the trifling sinus persisted, discharging two or three drops of pus daily. The organism found was the colon commune in pure culture. About this time — that is to say, four months after the operation — one of his old scars below the hip joint swelled and required opening. Pus giving a culture of staphylococcus aureus was recovered from this wound. About this time I instituted a renewal of vaccine injections, giving him the colon, on account of the appendix sinus. There was little benefit from this; the sinus persisted for some weeks longer. About the first of September, however, the wound in the leg had healed, and shortly thereafter the abdominal sinus healed. It seemed to me, and to the consultant who prepared the

vaccines, as though there must be some sort of communication between the inflammation in the thigh and the inflammation in the abdomen, but we were never able to discover any immediate channel of communication, nor were the cultures from the two wounds identical. It is an interesting observation, however, that the closure of the one wound was soon followed by the closure of the other. Since September, 1910, the patient has remained well.[3]

[1] At first sight, this patient seemed to be suffering unquestionably from an acute, but neglected, appendicitis. One remembers, however, that certain other ailments simulate or complicate appendicitis, especially tuberculosis, cancer and some infection of the retro-peritoneal glands. In the case of our patient there was also the old story of bone disease, with a possibility that the present condition might be due to spreading infection from the acetabulum.

[2] During the past few years surgeons have largely abandoned the old-fashioned method of extensive wicking in these cases, and leaving the wound wide open. Apparently there is nothing gained by that ancient method. It suffices to close the wound so far as possible about the drains. If there be a further spread of infection, and the formation of secondary pus pockets, the wound can readily be opened. Conversely, should the wound heal promptly, as is usually the case, the careful sewing up of the split muscles anticipates and prevents hernia in many cases. I employ appropriate vaccines invariably in the case of these drained appendix wounds.

[3] Every surgeon is familiar with the irritating presence of a long-suppurating abdominal sinus after an operation. These sinuses are commonly due to some deep-seated infection which refuses to subside, or perhaps most often to the irritating presence of an infected ligature. Possibly some such explanation is the true one in the case of Mr. Wills, but, if so, the opening and closing of the abscess in the thigh must be regarded as a curious coincidence.

Case 80. On the 15th of March, 1910, Mr. John A. Mutt, a lawyer of thirty-five and unmarried, with a long, indefinite and familiar story, came to see me. Up to three months before, his health had been excellent. He was an athletic, vigorous, out-of-doors man, who never thought of illness. On the 1st of December, 1909, however, he experienced a dull pain in his right side, below the costal margin. In the course of a day or two the pain became so wearing that he consulted his physician, who sent him to bed. The pain was not excruciating, but was constant, and was accompanied by fever and prostration. When he lay still he was comfortable, but the pain was aggravated by the slightest movement. He told me that there were no other symptoms and that his physician was puzzled. An internist saw him in consultation, and examined carefully into the condition of his kidneys, his gall bladder, his intestines, his stomach and other adjacent organs, but was able to arrive at no conclusion regarding them. The illness ran on for some two months, or until about the 1st of February; then the pain lessened, and finally ceased, and the patient was allowed to go about. He had been at his business for two weeks when he consulted me. Three days before I saw him the pain recurred in a mild degree, making him anxious and irritable. He told me that during the winter he lost twenty pounds in weight and became fretful, and unequal to his daily work. In order to pick up any possible lost threads of his story, I talked over the telephone with his two physicians, and learned that they regarded the case as possibly one of subphrenic abscess, but were unable to make a positive diagnosis.[1]

On his consulting me I saw that Mr. Mutt presented a serious and difficult problem, and I therefore exerted myself in every way to arrive at some conclusion regarding him. My first physical examination revealed a tall, well-developed

young man, somewhat emaciated and hectic in appearance, with sound organs above the diaphragm and with a temperature of 103°. He was highly intelligent, and answered accurately questions put to him. At the same time he professed himself willing to submit to any necessary investigation. His abdomen was somewhat retracted. He pointed to the right costal margin and to the right lumbar region as the seats of his pain and discomfort. On examining him by deep palpation I found a slight tenderness in the right costo-vertebral angle and over the cecum, but absolutely nothing else. Careful urinalysis at that time revealed an apparently normal urine. The patient stated further that he had a good appetite and could not understand his loss of flesh.

I sent him to a hospital for rest in bed and further investigation. While he was there I had a careful analysis made of the stools and gastric content, but nothing peculiar was found. Repeated tuberculin tests failed to elicit any reaction. I then had made a careful cystoscopic examination of his bladder, with an analysis of the segregated urines. The cystoscope showed a bladder normal in every particular, with normal ureteral openings. The segregated urines came in equal abundance, and with the characteristic stain after indigo-carmine, in ten minutes from both kidneys. There was nothing peculiar in the urethra. As my consultant stated at the time, however, this might well be coincident with a quiescent stone or a relapsing pyelitis as possible conditions in the right kidney, but his final statement was, " I cannot make a definite diagnosis of kidney disease." After a week in bed, Mr. Mutt was free from his old pains in the back and upper abdomen, but at the end af that time, on deep and careful palpation along the spinal column low in the abdomen, I was able to elicit invariably a point of pain about two inches to the right of the navel, not far from McBurney's point.[2] This strongly suggested appendicitis, and after repeated examinations, with the same result, I was able so to inform the patient. I then advised an exploratory operation, a proposition which he accepted cheerfully as a future alternative, but up to the present time, as

he has remained well, he has thought best to postpone further treatment.[3]

[1] Pain immediately below the right costal margin suggests, of course, a number of different conditions, especially disease of the bile passages, intercostal neuralgia, disease of the kidney, colon, liver, subphrenic region, and possibly of the appendix, while the more remote stomach and pancreas must not be left out of consideration. In Mr. Mutt's case, the fever, prostration and emaciation suggest strongly the presence of some infected joint and some inflammatory process, but the absolute lack of other confirmatory symptoms leaves the consultant very much in the dark.

[2] This point in the region of the right inguinal lymph-nodes is the point insisted upon by Robert Morris as indicating a probable infection of the appendix. The suggestion is well taken, and I have found Morris's point of great service in diagnosis in a number of cases. Persistent tenderness at this point may also indicate an impacted ureteral calculus, a lesion not infrequently confused with appendicitis. I believe, however, that the ureteral examination, which was made by a careful expert, should justify us in ruling out a calculus in the present case.

[3] The story of this patient, while unsatisfactory from the point of view of diagnosis, is extremely instructive from the point of view of the general treatment of obscure cases. I have long held that our present method of dealing with persons of small means who are the subjects of obscure illness is unsatisfactory. Patients of the poorest class can secure expert examination and advice by entering a large hospital, where they have the benefit of numerous consultations with different experts. Much in the same way, wealthy persons can employ the services of numerous experts to determine their ailments, while they pay large fees for such information. Persons of limited means, however, must not expect to be treated as paupers, nor can they afford numerous expert opinions. Such was the case with Mr. Mutt. He lay in bed many months without a satisfactory investigation of his case. His family physician, although a man of excellent attainments, was unable to provide several expert opinions, and the patient suffered from that fact. His consultation with me and the subsequent investigations by my special consultants were matters of serious moment to the patient, on account of the anticipated expense. I believe the time will come when it will be possible for groups of physicians, acting in concert, to investigate and treat

diseases of persons in small circumstances, and at moderate fees. As the situation stands at present, most of those unfortunate patients are cut off from the best of modern scientific medicine.

Case 81. While the surgeon can often clear up a diagnosis by operation, it is a mistake to suppose, as non-medical persons frequently do suppose, that operation is the end-all of surgery. The following case illustrates this fact, while it illustrates the value of patient inaction also.

Mrs. J. G. Jackson had been seriously ill for two days when I was asked by her physician to see her, on the 12th of August, 1910. She was sixty years of age, and the mother of three children. She had had an umbilical hernia for thirty years, as well as troublesome hemorrhoids, but no treatment for either condition. Five years previously, in 1905, she suffered from a sudden, agonizing attack of epigastric pain, which was promptly relieved by vomiting, and never recurred until this time. In all other respects she had been a well and vigorous woman, so far as was known to her physician. I have stated that the illness for which I was called had lasted two days. It was characterized by a severe recurrence of the epigastric pain, which persisted,— pain shooting into the right hypochondrium below the gall bladder, prostrating and agonizing. She was a woman of moderate means and was unwilling to employ a nurse, and owing to her irritability and restlessness had not been confined to her bed, but had been up and down about her sick-room since the onset of the attack. There had been no vomiting or nausea; her bowels had not moved for four days. The history went no further.

I found Mrs. Jackson to be an enormously fat woman, five feet six inches in height, and weighing three hundred pounds. As she lay in bed I could see little but a mountainous abdomen elevating the bed-clothes. Her heart was rather feeble, beating at the rate of 106, with a soft pulse. The heart appeared to be somewhat enlarged also, so far as we could make out through the massive chest wall, but no valvular murmurs could be heard. The patient looked very sick, — purple, red-eyed, anxious, short of breath, peevish. Her temperature was 102°, her chest was clear, her urine was not peculiar; the leukocyte count was 14,000. Her abdomen was enormous, as I have stated, and carried a considerable umbilical hernia, the size of two fists, which

was not tender and appeared to contain omentum only. There was marked abdominal distention also, very great above the navel, less conspicuous below it. There was extreme tenderness throughout the epigastrium and considerable tenderness in the right hypochondrium. In the right hypochondrium there was an area also, the size of a child's hand, halfway between the ribs and the navel, brawny and peculiarly tender, suggesting somewhat an infection of the abdominal wall.[1] As I have stated, her bowels had not moved for four days, except once very slightly and painfully after a large dose of calomel, a drug not to be recommended in cases of apparent inflammatory obstruction.

Mrs. Jackson's case was another of those obscure ones which no man may determine accurately at the first examination, her great size and fat abdominal wall rendering a positive decision especially difficult. Disease of the gall bladder and ducts was the first and most obvious suggestion, but we had to regard as possible some complication of appendicitis and as not improbable a malignant disease of the colon, penetrating and involving neighboring structures. I could say little more at the time than that there appeared to be an acute, inflammatory intestinal obstruction present.

The prognosis was extremely grave and the question of treatment difficult. We are all familiar with the hazard of operating upon elderly, fat persons with weak hearts, yet it seemed as though I should be forced to suggest an operation for Mrs. Jackson. I put the case fairly before the patient and her husband, and confessed that I saw little prospect of cure by an operation. We determined, therefore, to adopt an attitude of "masterly inactivity." Mrs. Jackson was removed to a hospital, was given a special nurse and a course of absolute starvation. At the same time she was supplied with water by proctoclysis, the head of her bed was elevated, her shoulders were properly supported and she was made as comfortable as possible. I started her off with a good dose of morphia, which I believe is always effective in these cases, in spite of many theoretical objections to its use.[2]

[1] The attack of epigastric pain five years before and the nature of the present attack suggest possible disease of the bile passages, with serious infection of the gall bladder. Some years ago, in a very similar case, I operated on a patient cutting down into the brawny region which existed there also. I supposed that I should open an infected abdominal wall. I did so, indeed, but discovered behind the sheath of the rectus a considerable gallstone, which had ulcerated through from the gall bladder and was endeavoring to force its way outward. Doubtless had I left it alone, an abscess would have resulted, and probably the gallstone eventually would have been discharged through the skin.

[2] I remember clearly a similar case in a man under my care some fifteen years ago, in whom I made the diagnosis of stercoral ulcer at the splenic flexure of the colon. That patient appeared to be dying of diffuse peritonitis. It was long before our modern conception of intestinal rest. I withheld from him all food, and even water, and tied up his intestines with morphia. Greatly to my interest and much to my surprise, he suddenly began to mend, and has been a well man for many years.

The patient passed a fairly comfortable night. The next morning her temperature had fallen to 99° and her pulse to 88. Keeping her still on a starvation diet, without even water by the mouth, I instituted a course of rectal feeding, — salt solution with albumen. After twenty-four hours more she was perfectly comfortable; her fever had disappeared; her pulse was steady, of good volume and slow; her discomfort was gone, and her usual serene and optimistic attitude had returned. She continued to improve. After four days she felt perfectly well; at the end of ten days she was walking about, and at the end of two weeks she went home, wearing a carefully fitted abdominal belt, which supported her great abdomen and held securely the umbilical hernia. I have heard from her recently, and learn that she has enjoyed good health since leaving the hospital.

While the diagnosis in this case is not yet cleared up, we are justified in feeling that proper measures were taken and that in all probability the more radical measure of operating would have killed the patient.

Case 82. For twenty-five years Mrs. George P. White had been an active, robust woman, with little thought of invalidism. She was forty-eight years old when I was called to see her, on the 15th of March, 1906. Married at twenty-three, she had two children, aged respectively twenty and eighteen. There was some question of her having had a pelvic infection shortly before the birth of her eldest child, though the question was unsettled and obscure. At any rate, she recovered and had borne her children without special disturbance. In 1896 she was confined to her bed for a period of two weeks with rather excessive flowing, but this passed off without recurrence. She was subject to attacks of dyspepsia, occasional distress after meals, sometimes coming on two hours after taking food, lasting one or two hours, and again relieved by food. These attacks were always allayed by abundant dosing with bicarbonate of soda. As she approached middle age she grew fat, and the dyspeptic attacks decreased in frequency. In 1900 she was laid up with a long course of typhoid fever, which left her debilitated for a year, but from that also she recovered. Her catamenia had always been regular and not excessive since the time of flowing ten years before. Both her children were well and vigorous, — one a divinity student, the other a girl active in good works, in which Mrs. White herself was keenly interested. Two weeks before I saw Mrs. White she had a sudden attack of abdominal pain in the middle of the night; not such epigastric pain and distress as she had been used to associate with dyspepsia, but pain lower down, in the neighborhood of the navel, steady, grinding, sickening, with extreme tenderness between the pubes and the navel. At that time also there was considerable abdominal distention, and for two days obstinate constipation, the temperature ranging from 101° to 103° and the pulse in the neighborhood of 110. With rest in bed and external applications,

the pain, soreness and constipation subsided. She had been through a menstrual period just before this attack, but had observed nothing unusual about the period. After the subsidence of the abdominal pain the patient remained sore and weak, with constipation and no appetite. She asked for nothing better than to be let alone. Four days later, and again five days later, she suffered from similar attacks, lasting two or three days, with complete subsidence of symptoms between the attacks, but without a proper sense of convalescence. When I saw her she was rallying from her third attack. The condition seemed to be one of some obscure, subacute infection, the cause far from obvious.

I found Mrs. White to be a large, stout, placid, intelligent woman, with a temperature of 100° and pulse 84. The chest examination was negative. Her heart was sound and competent. There was a general abdominal distention, most marked above the navel, as though the stomach and colon were blown up. There was exquisite tenderness above the pubes and on both sides, suggesting damage to the uterus and its adnexa. The appendix region was not peculiar, nor was there special tenderness to be brought out by deep palpation on either side of the umbilicus. Bimanual examination of the pelvis was unsatisfactory, owing to the extreme tenderness of the patient. I made out the uterus to be about the size of two fists, and tender to handling. There was extreme tenderness also in either fossa. Except for the large uterus, I could ascertain nothing definite, as the patient would bear no further manipulation, and it did not seem wise at that time to give an anesthetic.[1] I was unable to make a definite diagnosis further than the obvious one that the pelvic organs were inflamed and that in my judgment no present operation should be done. I believed, however, that, if the subacute process quieted down, the uterus should be curetted, and possibly a subsequent hysterectomy should be performed.

Four days later I was summoned in great haste by Mrs. White's physician, to operate in an emergency. He stated that the day after I first saw her she began to flow and had flowed severely ever since. She was becoming exhausted.

When I reached the house, which was in a town some twenty miles from Boston, I found Mrs. White much worse. Her pulse had run up to 120, she was blanched and feeble, her temperature was said to fluctuate between 98° and 102°. The abdominal distention persisted, but the evidence of an exhausting infection was far more marked. I regarded her as an extremely bad operative risk, and had it not been for the flowing I would have refused to submit her to any operation. The flowing, however, was so obstinate and depleting that there seemed no way out of the dilemma save to give an anesthetic and endeavor to check the hemorrhage. Accordingly, the patient was etherized and her uterus curetted. Large masses of detritus were removed and the uterus packed, but the hemorrhage persisted. As the patient was bearing the operation well, I went on hastily to a further investigation. I opened the abdomen and explored the pelvis. The intestines were adherent everywhere to the pelvic viscera, glued by numerous fresh adhesions. The left tube and ovary were distended and necrotic, the right tube was adherent to the uterus and the right ovary was necrotic. In other words, the blood supply of the adnexa was greatly diminished. There were further adhesions deep in the pelvis, showing evidence of an old inflammatory process there. In the midst of these adhesions was a pocket containing six ounces of pus, behind the uterus. The uterus itself was enlarged to the size of two fists, boggy, friable and easily bleeding. Indeed, all the pelvic organs were most friable. I removed rapidly the tubes and ovaries, and as the patient still remained in fair condition I carried the dissection still further and amputated the uterus itself above the cervix. The whole operation was an offense to one's surgical judgment and aseptic sense. It was impossible to prevent soiling the peritoneum, as the contents of the pelvis were extremely foul. So far as the patient's condition would permit, I cleaned up the pelvis carefully and closed the uterine stump, attaching it firmly to the broad and round ligaments.[2] The abdomen was closed, with stab-wound drainage, and a separate drain from behind the cervix was carried down through the vagina. The operation was long and the dis-

section tedious, but the patient bore it with surprising strength. She rallied well.

The care of the patient for the next week was exacting and difficult, and was carried out by my consultant most intelligently and conscientiously. We employed with great effect continual proctoclysis, and the patient was able to bear the semi-upright position without complaint. The salt solution seeped into the rectum, was taken up rapidly, and its good effects were shown by the increased activity of the kidneys, diminution of thirst and the goodly amount of fluid poured out through the drainage wicks.

The next day the patient suffered little pain; she looked better. Her pulse was 100, her temperature 98.8° in the morning. From that time on she made steady progress, greatly to my satisfaction and not a little to my surprise. We took out the wicks on the third day; on the seventh day the wounds were healed, and in three weeks she was able to sit up, and pronounced herself better than for many previous months. She has continued ever since in active and steady health.[3]

[1] The question of diagnosis up to this point was extremely obscure. The enlargement of the uterus and the apparent involvement of the tubes and ovaries suggested an infection, yet there was no apparent source for the infection, there was no uterine discharge, there was no evidence of gonorrhea, there had been no miscarriage or recent childbirth. A tumor of the uterus, if necrotic and infected, might give signs like those I have described, but the common tumor of the uterus, myoma, rarely becomes infected except after parturition, when, the blood supply being cut off or diminished, the tumor is peculiarly liable to necrotic or infective changes.

[2] In cases of supravaginal hysterectomy the suspension of the cervical stump by the broad and round ligaments is an important step, for such suspension holds up the pelvic floor and takes much of the weight of the superimposed viscera, which otherwise tend to produce pelvic hernia.

[3] I have indicated my satisfaction and surprise in the outcome of this case. These serious pelvic infections by no means always promise so satisfactory a result. Secondary hemorrhage after such an operation as I have described is common. Spreading infections are common also. If Mrs. White had been a poorly nourished, worn-out woman, she

would undoubtedly have died. Her speedy and satisfactory recovery must be laid in large measure to her previous vigorous health. Even so, the operation was imperative and would have been undertaken in any case except in the face of extreme collapse and impending death.

Case 83. Miss Minnie Locke at the age of forty-six was living in a remote New Hampshire hill town. She had been a school-teacher, but the course of her health had been troubled, and for fifteen years she had nursed a chronic dyspepsia, when I saw her on September 1, 1908.

As I look back now at the case, I have no doubt that she was the victim of a pronounced enteroptosis, but in 1908 I was less alert to the frequency of that condition than we are at present.

Miss Locke was a woman of moderate education and fair intelligence, given to introspection and to long sustained arguments regarding her numerous symptoms. She was brought to me as an emergency case by her physician, who rushed her from the station in Boston to the hospital. On questioning the patient, I learned that she was perfectly well and active up to the age of twenty, when she suffered a grievous disappointment, probably a blow to her affections. From that time, although for some years busy as a school-teacher, she had never known sound health. She was dyspeptic; that is to say, she felt oppressed by whatever food she ate, and limited herself to a small and simple diet. She was troubled by constant flatulence also. These symptoms, however, pointed to nothing positive and did not suggest gastric or duodenal ulcer. She was constipated, and dependent on large doses of senna. She was the victim of frequent racking headaches, which attacked her almost weekly and left her prostrate for many hours. She had had some swelling of the neck, but this had disappeared when I saw her. Her eyes had troubled her for five years or more, accommodating slowly and causing blurring of vision. She had recurring palpitations of the heart, her pulse running up often to 120 and 130 on the slightest exertion, her physician said. She was emaciated, weighing one hundred and fifteen pounds, twenty pounds below her best weight. She was troubled with bloating of the abdomen.[1]

On making a careful physical examination of this patient I was unable at first to arrive at any satisfactory diagnosis. The symptoms of Graves' disease which I have suggested were obscure; there was no exophthalmos; there was no thy-

roid tumor; the pulse was 100, but the heart was not affected; there was little or no muscular tremor, and the patient was fairly steady, with a forced cheerfulness. My examination of the chest was otherwise negative. An examination of the abdomen revealed little at first. The stomach was evidently somewhat enlarged and slightly prolapsed, so far as percussion demonstrated, and the same was true of the colon. The right kidney also was extremely movable and slid down readily towards the pelvis. When I had proceeded so far with my examination, the patient suddenly remembered that for some years her catamenia had been irregular and that for at least two years she had been troubled with excessive flowing about once every six weeks. This important fact was confided to me with hesitation. On further examination, accordingly, I discovered a uterus somewhat enlarged, about the size of two closed fists, movable, rather tender, retroverted in the second degree and retrocessed, not nodular, the adnexa not peculiar, except for an indefinite sense of resistance to the right of the uterus suggesting possibly the presence of a small ovarian cyst.[2]

[1] The symptoms which I have named suggest strongly two serious conditions, Graves' disease and gastro-enteroptosis, especially Graves' disease, though the toxemia associated with enteroptosis often simulates closely the toxemia of Graves' disease.

[2] The complex of signs and symptoms up to this point was rather puzzling. Obviously the woman was an invalid, but whether the psychic state was more pronounced than the physical one was a question. It did not seem likely to me that the small uterine myoma was the cause of all the symptoms, neither did the small amount of ptosis which I was then able to make out appear responsible.

The next day the patient told me that after my examination she had had constant low abdominal pain, that her appetite had vanished and that she felt very ill. In appearance she had not changed; her temperature was normal and her pulse between 90 and 100. Excessive uterine flowing had come on, however, and I ascertained that her hemoglobin was 60%. It seemed best, therefore, to operate at once and

remove the uterus. I did so, amputating the uterus at the cervix through an abdominal incision. There was a small cystic ovary present, which was removed also. A rather thickened and adherent appendix was taken out at the same time. The patient rallied well, the wound healed promptly, and two weeks later she was ready to leave the hospital. Nevertheless, she was far from well; the dyspeptic symptoms persisted and she complained constantly of great lassitude and headache, while the constipation was more troublesome than ever.

In order to ascertain more accurately the state of the abdominal organs before discharging the patient, I reviewed again my notes of the operation, and read that the cecum was low in the pelvis, that the lower border of the stomach was far down and that the transverse colon was prolapsed. These facts, which we now recognize as due to a congenital ptosis, had not especially impressed me at the time. Every operating surgeon realizes that it is a common thing to find a low-lying stomach and colon. That fact has been remarked upon a thousand times, but only recently have operating surgeons recognized the importance, and often the seriousness, of such low-lying hollow organs. In Miss Locke's case I realized with fair accuracy that her visceral ptosis might have an important bearing on her miserable psychic and physical condition. I therefore had her fitted with a carefully made corset-belt, according to the pattern which I was then using, and was gratified to find that within a week she had improved distinctly, both mentally and physically. She then left the hospital. I have seen her a number of times during the past three years. I have had careful x-rays made of the stomach and colon. While they are still prolapsed, they give much less trouble than formerly, because they are held up and the strain on the mesentery is relieved by proper external supports.

Case 84. Problems which are no problems frequently concern the physician and the surgeon. Mrs. James Perkins illustrates a common condition. She was a woman of forty-five, who came to see me on the 5th of January, 1909. She had been for ten years under the observation of various physicians, in no one of whom had she trusted long enough to allow him properly to study her case. Her most important symptom was anemia. She was well, up to the time of her marriage at eighteen. She was now the mother of six children. For the past ten years she had been in a gradual decline, growing more feeble and incompetent for her housework, negligent of her children, the victim of frequent headaches, with little appetite, moody and despondent. Slight exertion distressed her; various kinds of food brought on attacks of nausea, with occasional "bilious vomiting"; she had become pale, flabby and ineffective. So much she told me, and it was evident that she regarded the history as complete; obviously her numerous physicians had learned little more. On reflection, however, she stated that during the past year additional signs and symptoms had appeared, especially an increasing constipation, frequency of micturition, a distressing leucorrhea and an unusual flowing at the time of catamenia, which were becoming more and more frequent. She had lost some fifteen pounds in the course of five years.

I found Mrs. Perkins to be a large, stolid, weary-looking individual, decidedly shabby and down-at-heel, although her circumstances did not warrant neglect of the toilet. There was no peculiarity about her chest; her heart was not in any way abnormal; her abdomen was large and flabby and the right kidney was movable, though there was little evidence of other abdominal ptosis; the pelvic outlet was relaxed and there was a slight cystocele and a rectocele; the uterus, while retroverted in the second degree, was freely movable, its shape not peculiar, its size that of a large closed fist; the cervix was torn and bled easily.[1]

[1] In this case, again, the diagnosis is not so obvious as it appears. There was undoubtedly a myoma present, but it is hard to see just why a small myoma of the uterus

should have caused the long train of symptoms which had afflicted the patient for ten years.

Two days later I operated on Mrs. Perkins, removing the uterus above the cervix, through an abdominal incision. The tumor proved to be a large submucous myoma. The wound healed kindly, and within sixteen days the patient was walking about. A month after the operation she felt greatly improved, from the long rest in bed and from hospital care. When she began to go about more actively, however, sundry indefinite pains arose, finally centering in severe pain near the upper angle of the incision whenever she stood for more than five or ten minutes. It was obvious to me then, on palpating the abdomen, that the abdominal contents were extremely relaxed, the organs much out of place, and that the standing posture probably caused a dragging of some slight adhesion on the abdominal incision. A week later all the symptoms of distress had increased and the old condition of wretched invalidism was rapidly returning. Somewhat half-heartedly, and in order to relieve the condition as far as I could, I had this patient also fitted with a broad abdominal support, giving the lift entirely from below the iliac crests. Immediate benefit to the symptoms resulted; Mrs. Perkins has been wearing such a support now for more than two years, and declares herself to be practically well.

Case 85. Miss Flora Arrowsmith, who gave herself out as a trained nurse, twenty-four years old, came with a mysterious manner into my office late in the evening of the 26th of April, 1910. Before I could get at the nature of her difficulty, she told me a long story about her training and her nursing capacity. She appeared as a bright, attractive young person, with an excellent opinion of her own good looks, an opinion which I came to believe subsequently entered largely into her problem. The symptom which she finally disclosed was severe backache, which she stated was persistent and had lasted for three years, accompanied frequently by pain low in the pelvis, greatly aggravated by catamenia. I could learn nothing important from her previous history. She stated that three months before I saw her, when in New York City, she consulted a prominent surgeon, who gave her an ether examination and found a large myoma of the uterus. No further treatment or operation was carried out at that time, as the patient was then averse to hysterectomy. She informed me that now, however, she had determined on hysterectomy and wished it done at once.[1] Miss Arrowsmith stated further that she herself could often feel the tumor above the pubes, and that the constant backache interfered seriously with her work as a nurse. She represented herself as drifting rapidly into a chronic invalidism.

I was not altogether satisfied with the patient's story, and thought it best to send her to the Massachusetts General Hospital, which she entered on the following day. At the hospital I examined her. She was a vigorous, healthy-looking girl, well developed, tall and robust. Before the examination she supplemented her previous statements by adding a detail which my questioning probably had suggested, namely, that since seeing me the night previous she had had a depleting hemorrhage from the uterus. I could find nothing abnormal on palpating the abdomen. On bimanual examination of the pelvis I discovered a lax and easily entered vagina and a uterus not enlarged, but retroverted to the third degree. Palpation of the fundus through the rectum appeared to cause her great pain, simi-

lar to the pain she frequently experienced deep in the pelvis.

The patient was then prepared for an ether examination and operation the next day. Under ether I confirmed my previous finding, and discovered a small, retroverted uterus, with some slight evidence of uterine catarrh. I dilated the canal and curetted the uterus. I then opened the abdomen by a transverse incision above the pubes, lifted up the small normal-appearing uterus and suspended it by the round ligaments drawn over the recti muscles. There was no sign of a tumor anywhere in the pelvis. A large, injected appendix was removed and the wound was closed without drainage. The patient recovered promptly, made no comment on the simple nature of the operation performed, and within three weeks went cheerfully about her work, apparently satisfied with her condition.[2]

[1] The reader will observe that of the usual signs of large uterine tumor the only one present here was pelvic pain. There was no hemorrhage, nor was there interference with the functions of rectum or bladder.

[2] This case, with its associated suggestion of malingering, has somewhat puzzled me, and I am still at a loss to understand what the patient's purpose could have been when she informed me that she had a large tumor of the uterus and asked for a hysterectomy. She was not pregnant, nor was there any evidence of previous pregnancy. She hinted at an engagement and impending marriage, but that could scarcely account for her desire to cripple her organs. The story of consulting a New York surgeon may have been entirely false; certainly her report of his findings was false. It may be that she had a morbid curiosity to experience a severe surgical operation, though such a curiosity in a trained nurse seems improbable. My readers are at liberty to form their own hypotheses. She is still at her work as a nurse, and is said to give satisfaction to her patients.

Case 86. During the summer of 1910 I was consulted a number of times by an old classmate, a busy manufacturer, Mr. R. W. Rand, of Albany, who was much troubled about the physical condition of his wife. He told me that she was forty-one years of age and that they had been married twenty years. She had never been pregnant and there seemed little probability of her becoming so. Her physician, a man well known to me and highly esteemed, had advised his discussing her situation with me. Her previous history was stormy. Shortly after their marriage Mrs. Rand became extremely despondent, and appears to have gone through a course of melancholia, for which at one time it seemed best to confine her in a sanatorium. In the course of a year she recovered her mental balance, however, and returned home. She was a brilliant, erratic, interesting person, keenly alive to her husband's advancement in life, and active at the same time in the promotion of good works, especially local charities, hospitals and social settlements. Five years after her marriage she developed an ovarian tumor, which was removed, without subsequent ill effects. Nevertheless, she was said always to have behaved "queerly," and once or twice in the course of ten years to have threatened suicide, although there did not seem to have been any actual mental aberration, according to the opinion of a competent alienist. For some five years she had suffered from an obstinate dyspepsia, associated with recurring frontal headaches, which were said to be of extreme severity. She suffered from an obstinate form of chronic constipation also and from irregular and painful menstruation, at which times her "queerness" and excitability were greatly increased. Mr. Rand informed me that things had come to a crisis about three weeks before, when she broke down helplessly, took to her bed, and, in addition to her other sufferings, was distressed by a severe tonsillitis and a mysterious skin eruption. One week previously she was seen by a New York internist, who could make no diagnosis of her disturbance beyond recognizing the extremely feeble general condition. Her blood and urine were essentially normal. During the past three weeks she had been in bed. A further statement was made that for

some two years she had suffered from severe left-sided sciatica. Through all this period she had not lost weight perceptibly and her appetite was fair. The general suggestion was made that she was a woman who exaggerated her symptoms and preferred a rather semi-invalid life.[1]

Urged by Mr. Rand, I went over to Albany and examined his wife. I found her to be a tall woman of medium build, in young middle age, smiling cheerfully as she lay in bed, but complaining of a persistent pain in the left hip, which she called sciatica. She was somewhat pallid, but extremely intelligent and sprightly in conversation. The chest examination was negative, except that the heart sounds were somewhat feeble. The eyes were apparently normal; there was nothing in the neck to suggest goiter; there was no tremor of the extremities. The pulse was 74, temperature 98.4°, respirations 18. She made no further complaint, except that she was especially troubled at night by the pains I have described. The abdomen I did not find peculiar until I came to the region below the navel, where there was to be felt, above the pubes, a mass about the size of a child's head, situated mainly on the left,—nodular, irregular, hard, movable and apparently connected with the uterus. It was not painful or tender, but resistant, and suggested a solid uterine tumor. The patient then admitted that for some two years previously she had flowed excessively at her periods, but had thought little of the matter.[2]

[1] The leading feature in Mrs. Rand's case seemed to be mental and nervous disturbance, rather than physical, yet we must look for and eliminate physical disorders, so far as possible, in all such cases. I was struck particularly by the fact that she had had removed a large ovarian cyst, an event which would have impressed any surgeon. We are familiar with the fact that growths associated with the pelvic organs are often multiple, and that ovarian cysts may exist with tumors of the uterus and its adnexa.

[2] These findings seemed to bear out the previous suggestion, not hitherto made either by alienists or internists, that some pelvic disturbance might lie at the bottom of her whole course of invalidism. So far as I could judge, the tumor had been of slow growth and might well have existed for ten or more years.

Accordingly, I decided on the operation of hysterectomy, and sent Mrs. Rand to a hospital. In this case the psychic disturbance was so marked that I judged it wise to give that element in the case unusual consideration. Although the patient accepted cheerfully the prospect of an operation, she was convinced that she would not recover, and she made all arrangements for her own demise and the subsequent funeral. In spite of her forced cheerfulness, moreover, it was obvious that she was excessively apprehensive. I could not well " steal away " the growth, as I have sometimes done in cases of Graves' disease, but I endeavored in every way possible to bring her to the operation with confidence. The excellence of her own physical condition was dwelt upon, the dangers of the operation were minimized, abundance of sleep by bromides was secured, and an extremely careful and tactful anesthetist was engaged to give the anesthetic. On the morning of the operation the anesthetist visited the patient early, ordered morphin and scopolamin, and induced anesthesia at the proper time with nitrous oxide and oxygen. When the anesthetic was given Mrs. Rand was practically asleep and seemed unaware of the cone over her face. Her pulse was 90 at the beginning of the inhalation, and by the time the operation was over it had fallen to 86.

On opening the abdomen I disclosed a tumor such as the previous examination had indicated, a fibromyoma of the uterus, intramural and involving the whole organ. The right ovary also was involved. It lay close behind the uterus and was the size of a large grapefruit; it was the seat of a fibroid growth. I was compelled, therefore, to remove not only the uterus, above the cervix, but the ovary also, which left the patient devoid of both ovaries, inasmuch as her left ovary had been removed years before. The stump of the cervix was carefully covered in and suspended by the round and broad ligaments in the usual manner.

Mrs. Rand made an excellent recovery from the anesthetic, being practically herself before reaching her own room. The convalescence thereafter was uneventful and in the course of two weeks she went home. She has remained physically well ever since.

Probably the most interesting feature of this case was the psychic condition in which I found the patient and the improvement in that condition induced, presumably, by the operation. From having been a neurotic invalid, Mrs. Rand has become a vigorous, alert, interested person, keenly sympathetic in her relations with her family, logical in her views of life, and in all ways a far more useful person than at any time since her marriage, and this is spite of the fact that she has now been deprived of both ovaries, a calamity which we are wont to deplore in persons who have not yet passed the menopause.

Case 87. Late one afternoon in the summer of 1906 I was summoned hastily by a physician to see a woman with him in a farmhouse some ten miles from Boston. He informed me by telephone that the patient had been successfully delivered of a healthy girl six days previously, but that the uterus had never properly involuted, that there was still an unnatural amount of hemorrhage, which was becoming extremely foul, that the abdomen was distended and that he feared the onset of puerperal septicemia.

On reaching the patient, Mrs. O'Sullivan, I found her to be a large, vigorous, hard-fisted wife of a farmer, herself thirty-six years old and the mother of six children. Except for her confinements, she had always been well. There had been no miscarriages nor ill-health between pregnancies. The story of her last confinement was peculiar. Apparently labor had come on four weeks before it was due, though the child when born did not appear premature. Throughout her pregnancy she had more or less flowing, usually at the expected monthly period, so that she was unable to determine precisely the beginning of the pregnancy. During the pregnancy she became unnaturally large and "carried the child very high." By the end of the eighth month she was extremely uncomfortable from her unnatural size, and on consulting her physician was told that she probably was carrying twins or triplets. The confinement was long and tedious. The physician was unable satisfactorily to reach the presenting part until twenty-four hours had elapsed, when he succeeded in finding a foot, which he brought down. The patient was then etherized, and prolonged traction on the foot at last succeeded in delivering a living infant. With the birth of the child the uterus appeared to retreat high into the abdomen and to remain of considerable size. At first the physician thought that it contained another fetus, but on more careful investigation he concluded that the

uterus itself was the seat of a tumor. Satisfied with having secured a living infant, he expected no further trouble, but much to his disappointment the confinement was followed by considerable hemorrhage, by greatly increased lochia and, as he stated to me, by a foul lochial discharge after the fifth day. At the same time the uterine tumor remained.[1]

On examining Mrs. O'Sullivan I found her to be in a critical condition. Her temperature was 104°; it had been 103° that morning and 103° the previous night. Her pulse was pounding out 110. The abdomen was much distended, everywhere tympanitic and tender, while the tenderness above the pubes was excessive. Bimanually I made out readily a mass, evidently the uterus, about the size of a child's head, nodular and hard, except at the center, where there was a suspicious doughy feel. The lochial discharge, as stated, was extremely offensive and abundant. On this evidence I made the diagnosis of sloughing fibroid of the uterus, following delivery.[2]

[1] The mechanics of delivery in the face of an obstructing myoma of the uterus, which was here undoubtedly present, are well known. It is often astonishing to observe how a myomatous mass almost filling the pelvis will ride up into the abdomen during labor, and will give free passage to the advancing fetus. Undoubtedly this had occurred in the present case.

[2] A pregnant uterus the site of a fibromyoma is dangerous. A myomatous growth in the uterus is wont to enlarge rapidly during pregnancy, owing to the vastly increased blood supply during those months. After delivery, however, and with the attempts on the part of the organ to involute, the blood supply may be in great measure cut off from the tumor, so that it not infrequently happens that necrosis results, and a dead, sloughing fibroid takes the place of the actively growing mass. Rarely such a sloughing fibroid may be expelled by the uterus itself, but this can happen only in the case of submucous growths, or much more rarely in the case of well-isolated intramural growths.

I called an ambulance and sent Mrs. O'Sullivan to a Boston hospital, where I saw her some two hours later. I operated at once, though in the face of the gravest peril to the patient.

Operation, however, was the only possible resource. The condition found bore out our previous understanding. The uterus itself was in a condition of subinvolution, but springing from its right anterior aspect, and attached to it by a broad pedicle, was an engorged mass the size of a child's head, evidently in a state of advanced necrosis. I was somewhat relieved to find that hysterectomy was needless. By carefully packing off the uterus with gauze and bringing it outside the abdominal cavity, I was able to throw a couple of ligatures about the pedicle of the tumor and to amputate it successfully, with little loss of blood. All necrotic tissue was removed and the wounded uterus was carefully repaired. It was then returned to the pelvis and was covered with a protecting arrangement of gauze drains.

The patient rallied promptly and recovered. I presume her excellent previous health and her unusual strength of constitution played a great part in the fight. A week after the operation all drains were removed, and in the course of three weeks she was up and about, and went home in confident health, assuring me to the last that she would have no more babies. I am told that she has clung to her resolution and remains the mother of seven children only.

FIG. 12. CASE 88.

Note buckling of ascending colon, with hepatic flexure below iliac crest; transverse colon in pelvis, kinked splenic flexure high, with descending colon lying against transverse colon; sigmoid in normal position.

INTESTINAL OBSTRUCTION.

Case 88. Selma Rodovsky at the age of forty-one knew no English, for she had lived in this country but six months and before leaving her native Poland was unfamiliar with any language but her own. On the 5th of January, 1911, she entered the Massachusetts General Hospital, when, through an interpreter, we extracted from her a long and melancholy story. She was sent to the hospital for acute intestinal obstruction. She stated that she had been married twenty years. In her girlhood she was an invalid, the victim of frequent headaches, attacks of indefinite abdominal pain and obstinate constipation. She was undersized as a girl, and even at forty-one appeared as undeveloped as a child of fourteen. At twenty-one she married, but was never pregnant. The wife of a laboring man, she herself was accustomed to hardship, and was worn and frail. Some fifteen years before I saw her she had suffered from recurring attacks of acute abdominal pain, located mainly in the appendix region, but she had never been operated upon. It seemed fair to assume that this disturbance was appendicitis. For the past ten years her digestive disorders had increased. She had little appetite, was always under-nourished, vomited occasionally, though not in large amounts, but suffered especially from frequent attacks of what appeared to be intestinal obstruction.[1] The nature of the obstruction in her case was indefinite, but the symptoms were clear. She stated that after a long course of increasing constipation her bowels ceased to move, usually for some days; that she then became distended, vomited frequently, and could often feel a mass in some portion of the abdomen, usually in the right side. There was rarely any fever, but there was profound prostration. Such attacks passed off eventually, after vigorous dosing with cathartics, under the direction of a physician. Her last previous attack occurred in October, 1910.

On entering the hospital, Mrs. Rodovsky was seen by the house surgeon, who examined her carefully. She was a slight, frail woman, in early middle age, four feet ten inches in height, and weighing one hundred pounds. She was patient, inarticulate and extremely feeble. Her pulse was 110 and her temperature normal. While in other respects the examination was negative, the abdomen was conspicuous. It was somewhat distended and tympanitic, tender throughout, but especially tender along the right costal margin, where a mass the size of a large sausage could be felt. This was movable and seemed doughy to the feel. It could be pushed about readily, even as far as the navel. There was no enlargement of the liver, nor was there positive evidence of metastasis. Assuming that the tumor was a fecal impaction at the hepatic flexure, the house surgeon ordered large oil enemata, which eventually acted to bring away the mass. This was followed up by mild purgatives, which cleared out the patient's bowels and left her abdomen flat and relatively painless. The whole experience lasted some four days, and seemed to be extremely distressing. The immediate diagnosis obviously was fecal impaction, but the cause of the impaction remained to be discovered. In order to ascertain this, the patient was given a bismuth meal and was submitted to an x-ray examination. This examination was interesting. It showed the stomach in a normal position but the colon much displaced, the cecum loose and far down in the pelvis, the ascending colon crumpled and prolapsed, the transverse colon running from the pubes to the splenic flexure, which was held well up in the normal position. The bismuth failed to penetrate deeply the transverse colon, save for a thin, ribbonlike line, while the descending colon showed not at all.

Here was a case of a hard-working woman, the victim of recurring incapacity, for whom it seemed best to do some radical operation. Accordingly, a few days later I explored the abdomen, and found the large intestine in the position indicated by the x-rays, the omentum being rolled up and of insignificant dimensions and lying deep in the pelvis beneath the colon. It seemed impossible to establish a proper

intestinal tube approximating even to the normal. Accordingly, I severed the ileum from the cecum, and implanted it in the upper portion of the sigmoid flexure. I then rapidly removed the whole colon, the ascending and transverse portions without difficulty, and the descending portion as far as the sigmoid stoma, where I cut away the descending colon and closed the sigmoid above the new stoma. The patient was thus left practically without a colon, save for the sigmoid.

An extremely interesting observation in connection with this operation — an observation made many times by other operators — is the slight amount of shock suffered by the patient during the removal of the colon. Before taking the anesthetic her feeble pulse registered 80; at the end of the operation it was 76, and of fair quality. She rallied satisfactorily and went on to an uncomplicated convalescence. Three days after the operation her bowels moved naturally and there was no diarrhea. Since that time the condition of the bowels has been satisfactory, with one or two daily movements. She has gained in weight, is more vigorous than for a long time, and expresses the greatest satisfaction with what we have done to relieve her.[2]

[1] Intestinal obstruction in a woman between thirty and forty may be due to acute or to chronic disease, but it is most commonly due to acute disease of an inflammatory or mechanical nature, such as appendicitis, intussusception, volvulus and the like. Chronic intestinal obstruction in relatively young persons is rare. When present, we think of obstruction by bands, by adhesions due to some inflammatory process, possibly tuberculous peritonitis, and, more rarely, to malignant disease. There are, of course, other and less frequent causes.

[2] Extirpation of the colon for these extreme degrees of ptosis infrequently is necessary or justifiable. Usually a proper corset-belt will improve the symptoms. Commonly when an operation is necessary, the operation may be limited to a short-circuiting of the large intestine and leaving it in place,— so that what we do is merely an implanting of the ileum into the sigmoid. I have on two occasions anastomosed the cecum with the sigmoid, cutting off no bowel whatever. This operation, however, is not altogether

satisfactory, as it leaves a double channel for the fecal stream, and on more than one occasion has resulted in a partial impaction in the transverse colon. While I am still skeptical as to the frequent necessity for ablation of the colon, I believe that there are certain desperate cases in which such ablation must be the only remedy, while a relatively small experience has convinced me that the shock of the operation is much less than is removal of portions of the colon for malignant disease.

Case 89. Miss Violet Bauer, an athletic spinster of forty-two, had a large estate in northern Pennsylvania, where she lived without care, save for the health of her horses and the fruitage of her greenhouses. She was accustomed to spend some weeks annually in eastern Massachusetts, and had consulted me occasionally for many years when she came seriously to face a surgical operation, in June, 1905. Her physical and mental habits may have had some bearing on her ailment.

She was a tall, vigorous, muscular, active person from childhood, given to long rides across country, to following the hounds, to hours daily on the tennis court, and to the best sort of rough, wholesome, out-of-doors life. At forty-two she seemed quite up to the needs of this career, although she came of a somewhat delicate and languid stock. She had suffered from measles and scarlatina in childhood; at twenty-nine she had a long course of typhoid fever, with a serious relapse, the whole running over some six months. Since childhood she was given to joint pains in cold weather and to frequent attacks of what had been called neuritis, located in the shoulders, in either the left or right circumflex nerves. She threw off these disturbances slowly, but always returned vigorously to her usual mode of life. She was somewhat dyspeptic, could take little wine or spirits without subsequent distress, ate sparingly of a simple diet, and suffered from habitual constipation. When she consulted me, on the 17th of June, 1905, she told me that for five years she had had pain at the menstrual periods — pain increasing with time. The catamenia also had become somewhat irregular, coming on every twenty-six, twenty-eight or thirty-two days. Of late the pain was much worse and persisted five or six days after the cessation of flow; it did not precede the flow. Often there was a distressing sense of pressure in the rectum during the continuance of the pain.[1]

A physical examination of the patient was not altogether satisfactory. She was the alert, active woman I have described, but seemed to be unusually sensitive to any pelvic examination. The abdomen was flat and negative, except for persistent tenderness at McBurney's point, suggesting either a chronic appendicitis or the frequent condition of prolapse of the cecum, which is so often confounded with appendicitis. The uterus was slightly enlarged, retroverted in the third degree and tied down. There was a marked endometritis. There was also a small mass, probably the right ovary, felt in the right cul-de-sac, tender and adherent. In view of these findings, I advised an exploratory operation and setting right the complicated disorders.

For more than six months the patient took no further steps in regard to her pelvic trouble. On February 26, 1906, she called on me again, reporting that she had had occasional attacks of excessive right ovarian pain between periods, and this only during the past five months.[2] Up to that time this patient had dodged the question of operation because her life was busy and interesting, and she was unwilling to postpone her numerous engagements. Now, however, the season of Lent was approaching, her country house was regarded as somewhat remote by most of her friends, and she concluded that the time had come for an operation. She therefore arranged with me to go to her place to operate on the 11th of the following March.

I have often protested, and I protest again, against the common habit of surgeons of performing serious, major operations in remote country places and then leaving their patients to fight their way back to health. I believe strongly in the value of the surgeon's personal care during convalescence, or at least in his keeping in close touch with the local physician in charge. In this case close supervision and the personal following of the case on my part were impossible, but I was over-persuaded by the patient to perform the operation at her own residence. At least, she was provided with two of my best and most experienced nurses.

The findings at the operation were in many ways interesting. After curetting the uterus, I opened the abdominal cavity by a transverse Pfannensteil incision, which in this case seemed particularly appropriate, as the patient was an unmarried woman and the organs to be handled did not include any large masses. The uterus was enlarged to the size of a man's fist, and was tied down firmly, with its fundus in the sacrum. The right ovary was the seat of an enchondroma and was the size of a large English walnut; it was adherent closely and posteriorly to the uterus. A portion of this right ovary contained a collection of blood, filling a cyst as large as a hen's egg. The same hemorrhage which had distended the ovary had extended also into the broad ligament, and was obviously due to the rupture of small branches of the right ovarian artery. As a result, the broad ligament for an area as large as a child's palm was distended with blood clots. Throughout the right broad ligament and at two points in the left broad ligament were old scars, suggesting obviously similar previous hemorrhages. These hemorrhages appeared to account for the excruciating and prolonged pain which the patient had suffered after a number of her catamenial periods. It is an interesting and somewhat unusual condition. I have seen it much more extensive in another case, in which a large area of the peritoneum was distended and banked up by blood, which there formed an ominous looking hematoma, half as large as a child's head. Fortunately, in the case of Miss Bauer the hemorrhages were slight. A six-inch coil of the ileum also was closely adherent to the uterus and the diseased ovary. The appendix was injected, kinked and thickened, and lay behind the cecum, which hung down somewhat, with an unusually long mesentery. The left tube and ovary appeared to be normal. The gall bladder, stomach and other viscera were not peculiar. The uterus bore upon its posterior surface two small fibroids, the size of marbles.[3]

[1] Pain preceding or following the menstrual period may or may not be significant. The pain preceding the flow is frequently referred to as ovarian pain, ovarian neuralgia,

etc., and seems to be associated with an extensive engorgement of the ovaries. The well-known maneuver of cutting the ovarian nerves is curative in such cases. On the other hand, pain continuing after the cessation of the flow is much less easily explained. In a number of cases I have found such pain to be due to tubal disease, or other obstruction high in the generative canal.

[2] Intermenstrual pain is practically always due to unusual circulatory activity, localized in the pelvis. Sometimes such pain is associated with intermenstrual flowing, sometimes with an unusual engorgement of the pelvic organs merely.

[3] This complication of disorders was much more extensive and more serious in pathological appearance than the patient's symptoms had seemed to warrant our expecting. Doubtless her vigorous mode of life and correct habits enabled her to suppress the expression of pain and discomfort, but it seems as though she must have had at some time a rather severe pelvic peritonitis, the origin of which is not obvious. A matting of the uterus, the ileum, one tube and ovary, and the dense adherence of these structures to the sacrum, are our evidence. Certainly the case is unusual, but is much more hopeful in outlook than it would be were we confronted with the diseased organs of a married woman, the subject of lacerations and of possible puerperal infection.

I followed the obvious indications for treatment; broke up the adhesions by a long and tiresome dissection, removed the right tube and ovary, excised the blood sacs and the small fibroids, removed the appendix, and suspended the uterus by uniting the round ligaments in front of the recti muscles. The pelvis was left dry. The operation was extremely tedious, lasting more than two hours, but the patient was returned to her bed in excellent condition. There is nothing to record of the convalescence. Miss Bauer was up and about at the end of two weeks, and at the end of three months was following actively her usual pastimes. She has been perfectly well since the operation, and especially has shown no tendency to a repetition of her intermenstrual attacks of pain.

Case 90. In the autumn of 1907, while visiting a remote cottage hospital in the New Hampshire hills, with the local physician of the place, I was asked to operate upon Miss Anna Flaxman, thirty-five years of age, who had made a long wagon journey that morning for the purpose of an examination and a possible operation. Miss Flaxman was a school-teacher living in a small village twelve miles from any railway, and equally far from a physician. The daughter of a farmer, she had grown up in wholesome surroundings, and had never been ill until the age of sixteen. At that time however, she lost her mother; and being the eldest of seven children had found the serious responsibilities of housekeeping, and the farm, thrown upon her shoulders. She seems to have been unequal to the task in many ways; although intelligent, and zealous, she was physically ineffective, and broke down under the strain. It was said that she broke down from dyspepsia. The story of that breakdown was thought to be significant. Gradually she found that she could eat no breakfast; with the early morning risings between four and five she had frequent attacks of nausea and vomiting; and she was seldom able to take nourishment before eleven or twelve in the morning, when she contented herself with a bowl of hot milk. She was dizzy, and had been known, on several occasions to fall in a "fit"; towards evening she frequently had pain in the epigastrium, which caused her to look forward eagerly to her supper. Supper, always a hearty one, relieved her pain and brought a sensation of comfort so that she was able to do her evening work tranquilly. She went to bed usually between eight and nine o'clock. She fell into a troubled sleep at once on going to bed, but used to wake up between twelve and one in the morning with a recurrence of abdominal pain. After much experimenting she discovered that this pain was relieved by drinking hot milk, so that it was her custom to get up and heat milk regularly in the middle of the night. This distress, the anxiety for her health, and the increasing demands of younger brothers and sisters finally wore her down, so that the physician who traveled many miles to see her advised her spending six weeks in bed. She was greatly improved

by rest in bed, and by the care which she received; but had never been able to go back to the active, hard work of farm and kitchen. Her father was able to send her to a neighboring normal school for a year, and at the age of eighteen she began the life of a country district school-teacher, which she had followed for some seventeen years when I saw her. During this period of seventeen years she was not altogether free from her old physical disturbances; but the nature of her ailments had changed somewhat. She still suffered from occasional attacks of nausea and from indigestion several hours after eating, — pain relieved by food, — but there was in addition more headache, more blurring of vision, and on two occasions distinct attacks of jaundice. Moreover, her bowels became troublesome, until she finally fell into a pronounced habit of chronic constipation. In other respects her physical history was not peculiar; she had suffered from the usual winter colds of the country, from irregular catamenia, from the weariness of long hours and improper food, and from the discouraging circumstances of a rather dreary existence.

When I met Miss Flaxman at the cottage hospital on October 24, 1907, she appeared as a simple, tired woman of middle age. She appeared forty-five, though her actual age was thirty-five. She was tall and gaunt, with much gray in her scanty blonde hair; she blinked through powerful glasses; her height was five feet five inches; her weight a hundred and five pounds; she was emaciated and debilitated, with long, thin, dry, flaccid hands. The patient told me her story, but without any special interest or enthusiasm; she had told it before without benefit. I gathered from her words that she had never been properly examined by any physician, that she had depended largely, for her medical advice, on the old ladies of her community; and was saturated with patent medicines. At first glance, and on observing the patient's bearing and mental outlook, it appeared that her main disturbance was probably a chronic dyspepsia associated with a prolapse of some of the abdominal organs. I examined her with some care, however, and was interested to find that above the diaphragm she was everywhere sound;

there was no sign of any disturbance with the lungs or heart. The abdomen was flat, but nowhere tender until I came to an examination of the lower portion; there was the usual tenderness in the region of the appendix, so common in flabby persons; while deep pressure above the pubis gave her a sensation of general abdominal distress and nausea. It then occurred to me that the difficulty was probably pelvic. On making a careful bimanual examination of the pelvis, I was interested to find that the whole pelvis was filled by an apparently solid tumor, not connected with the uterus, so far as I could judge, and apparently about the size of a child's head. Toward the right in the false pelvis and near the cecum was a more pronounced tumor, fixed, tense, tender, in its turn also about the size of a child's head.[1]

[1] Gynecologists long ago bade the profession look to the pelvis as the source of all disease. Our revolt against this teaching during the past ten years has perhaps led us too much to disregard the pelvis. Certainly in the case of Miss Flaxman pelvic disease had never been considered. Had I been asked for a casual diagnosis and without examination, I should have said that it lay between duodenal ulcer — founding my opinion upon "relief by food" — and enteroptosis. Pelvic tumors are frequently associated with ptosis however. The outline of the tumor in this case suggested the presence of a normal down-crowded uterus overridden by two solid ovarian tumors.

The patient had been warned of possible operation, and came to the hospital prepared for that event. Accordingly she was anesthetized at once, and the abdomen opened in the median line. I found the right-side tumor near the cecum to be a densely adherent, strangulated ovarian cyst with three twists in its pedicle; apparently the strangulation had occurred within a few hours only, for the cyst, though black, was not yet necrotic; it was extremely tense. On the left side of the pelvis was another tumor, as I had suspected, but a cyst not strangulated, almost equally tense with the right-side cyst. I removed both tumors without trouble, and found them to be dermoids containing the usual mass of detritus, fat and hair. I removed the appendix

also, which was slightly adherent to the right-side cyst; and completed the operation by suspending the uterus by the broad ligaments. Miss Flaxman did not do very well after the first week; she had some fever, and a fluctuating mass developed deep in the pelvis. On the 13th of November I again visited the hospital, and found the patient in poor condition. I aspirated the pelvic mass by vaginal puncture and cleaned out a large amount of pus evidently due to the infected right ovarian cyst. The patient's condition improved at once, and within ten days she left cheerfully for her home. I have heard from Miss Flaxman several times during the past three years, and am able to report that most of her severe symptoms are greatly relieved. While her appetite is still capricious and her headaches occasionally troublesome, the pronounced condition of invalidism has entirely disappeared, and she is able to do her work with comfort and satisfaction.

Case 91. Miss Araminta Jehrs, thirty-one years of age, was referred to me by a stomach specialist on the 5th of December, 1907. She was an assistant librarian in a large public library, and appeared as an intelligent, wide-awake, person, although giving a somewhat neurotic history. She informed me that her general health had been fair until eight months previously, when her stomach began to grow hard and large. Associated with the hardening of her stomach, she was greatly troubled with dyspepsia of a puzzling kind,— an idiosyncrasy against certain forms of food, especially roast mutton and codfish, both of which caused her most intense distress until she was able to vomit them. She came of German parentage and lived largely on German cooking; sauerkraut and sausages agreed with her, as did the most vigorous forms of New England pastry. She was a great tea drinker, but seemed to think that indulgence in tea did not affect her appetite or induce digestive disturbance. During the past eight months she had become somewhat morbid, fretful and apprehensive. One grandmother had died in an insane asylum, and she herself feared a similar fate. She stated that the physician who referred her to me regarded her case as one of pyloric spasm, and had treated her with large doses of subcarbonate of bismuth and bicarbonate of soda. For a time this antacid treatment relieved her, but lately she had become worse.[1] In addition to her troublesome gastric and mental symptoms, the patient suffered from an obstinate constipation and spoke of loss of weight — ten pounds — and general debility. She informed me further that during the past month the gastric distress had increased, with a sense of nausea and gagging three or four hours after all food. For two months, her catamenia, which had always been regular, had ceased.[2] The urine was reported as negative.

The patient was a short, well-developed woman, of anxious appearance, highly intelligent and appreciative of our efforts to help her. The chest examination was negative. The abdomen showed a marked protrusion throughout; it was uniformly enlarged, smooth, dull on percussion, non-fluctuant, though the appearance suggested ascites. On

careful palpation it seemed as though there were a mass the size of a child's head in the region of the navel. This appeared to lie in the midst of the general abdominal distention. Tympany could be discovered in the epigastrium and low in the flanks only; there was no shifting dullness as the patient turned. The tumor was not apparently connected with the uterus. Bimanual examination was negative; I did not probe the uterus, on account of a suspicion of pregnancy. My consultant's note stated that the thought of phantom tumor had been entertained.[3]

[1] The irregularity of gastric symptoms and the fact that many forms of food caused no distress is misleading. Associated with the gastric hyperchlorhydria, one thinks of either gastric or duodenal ulcer. In Miss Jehrs' case, however, the ordinary symptoms of ulcer were lacking. The ingestion of food was not followed by pain, either immediate or delayed; there had been no peculiar vomiting, and the physician's report which was sent to me showed a very slight degree of hyperchlorhydria.

[2] Here is an additional group of symptoms, extremely suggestive to an experienced practitioner,— slight loss of weight, enlargement of the "stomach," amenorrhea and nausea. One can hardly escape the conviction, or at least the thought, that the patient may be in the second month of pregnancy.

[3] A marked, uniform, general enlargement, without shifting dullness, suggests fluid, probably encapsulated, as from tuberculous peritonitis or a cyst; the isolated hard tumor near the navel suggests a solid tumor of the ovary, or of some other organ; as though we were dealing here with a multiple process and not a single, simple growth.

I was unable to give Miss Jehrs a definite diagnosis, but urged her strongly to have an operation done, in order to establish the diagnosis and, if possible, to remove the disease. Accordingly, she entered a private hospital, where I operated two days later. On opening the abdomen in the median line, I disclosed a large cyst, of far greater extent than is ordinarily seen in these days. It reminded me of the so-called old-fashioned ovarian tumors of the Spencer Wells era. It appeared to fill the whole abdominal cavity; it was non-adherent, and sprang from the right ovarian region; its

lower border lay deep in the pelvis, its upper border rested against the liver and diaphragm; it was multilocular and in the midst contained a dense compartment, so thick walled that it had given to the examining hand the impression of a solid tumor. This whole mass was easily delivered, after the abdomen was widely opened. I did not tap it, as I believe that old-fashioned method is often hazardous and may give rise later to a peritoneal neoplasm, should the tumor prove to be malignant. I delivered the tumor whole and tied off its pedicle without trouble. The cyst and its contents weighed sixteen pounds. There were about ten separate loculi, but no signs of malignancy.

The patient made a surprisingly rapid and satisfactory recovery. There was none of the reaction sometimes seen after the removal of an enormous abdominal tumor. She left the hospital at the end of two weeks and shortly returned in health to her regular work, which she has followed ever since.

Case 92. On November 2, 1908, and at the age of thirty-six, Mrs. Thornton Ballinger who had been an occasional patient of mine for some ten years, sent her husband to consult me regarding the wisdom of cutting short her fifth pregnancy. She was becoming exhausted with a pernicious vomiting, the pregnancy being some two months advanced, and eclampsia threatening. I advised a consultation with an obstetrician, but, unfortunately, was that day myself called out of town on an urgent errand, which detained me for five days. On my return I learned that Mrs. Ballinger had been seen by my consultant, who immediately induced abortion and looked to a speedy improvement. I was informed also that the family physician was now in charge of the case. Assuming that all was going well, I thought no more of the matter for a week, when the patient's husband telephoned to me that she was suffering from a mild attack of appendicitis. I saw her that same day, and concluded that the diagnosis was correct, but that the appendicitis was subsiding. The next day the pain in the region of the appendix had disappeared, but there supervened apparently a low grade of pelvic inflammation, evidently involving the uterus and the left tube. From the uterus there issued an abundant discharge of pus, while the left tube was easily palpable and tender. The patient's general condition was extremely feeble, and I did not feel justified in advising an operation.[1]

[1] The cause for the situation I have described is not immediately apparent. A patient, the victim of eclampsia, whose uterus is cleared out by a competent obstetrician, should not immediately fall victim to a prostrating salpingitis and metritis, yet such was the fate of this patient. I immediately instituted a searching inquiry regarding her previous condition. It then appeared that soon after marriage she had a miscarriage and an illness which suggested salpingitis. She had attacks, between pregnancies, of profuse leucorrhea for many years, and for more than a year immediately before the present pregnancy she had suffered from a constant and abundant discharge of pus from the uterus.

I was forced to the conclusion that the present pregnancy complicated a chronic salpingitis, and that with the development of the pregnancy the salpingitis had become more acute, lighting up fiercely after the performance of abortion. The question of treatment now became urgent and difficult. In order to gain time, and in the hope of mitigating the symptoms, I instituted a vigorous course of vaccine treatment, which for four or five days brought improvement, with a fall of temperature, and hope of permanent gain. On the fifth day, however, the temperature began to rise; the pain over the whole pelvis, and especially on the right, increased greatly. A large indefinite mass could be made out in the neighborhood of the right tube. On the morning of November 19 the temperature was 102°, the pulse 110. Two hours later the temperature had risen to 103°, and an immediate operation seemed imperative, if the patient were to be saved. Accordingly, I opened the abdomen, in the patient's bedroom, under extremely difficult circumstances. I found the uterus and pelvic viscera extensively matted, the uterus retroverted and buried in adhesions. Behind it was an abscess containing six ounces of greenish pus, apparently communicating with the right tube, which was closely tied down behind the uterus. The left tube, on the other hand, was free, and the left ovary normal in appearance. The appendix was long, injected and adherent to the mass of adhesions on the right. I carried out the obvious maneuver of removing the appendix, the right tube and ovary, and draining the abscess. On breaking up the adhesions, the uterus swung free, and I was able to suspend it firmly from the anterior peritoneum. There was moderate hemorrhage. I closed the abdomen, draining by four wicks. Before the operation the patient's condition had appeared desperate; she survived the day, however, and in the evening seemed to be doing fairly well.

The interest in this case, and the problem involved up to this point, lie in the questions of etiology, of diagnosis and of treatment. I have said little of the patient's general health. She was a vigorous, robust, hardy, out-of-doors woman, and to that fact undoubtedly she owed in large

measure her ability to survive so serious an illness; but her troubles were not yet over. The operation was done on the 19th of November. For some four weeks she made excellent but slow progress until about the 20th of December, when she seemed nearly ready to leave her bed. Suddenly, on the 21st of December, she was seized by an overwhelming return of abdominal pain, with rising temperature. The pain was especially severe on the right of the uterus, but the whole abdomen was extremely tender. On making a pelvic examination I could find little to explain the situation, save that the uterus was heavy and tender, while the cervix admitted a probe with difficulty. Nothing peculiar was to be felt outside of the uterus itself. We remember that the uterus had been suspended at the operation a month previously. My belief was, therefore, that the trouble, whatever it was, lay within the uterus, that that organ had become acutely infected again, and that it was not being relieved by proper drainage. Accordingly, I gave Mrs. Ballinger gas anesthesia, dilated widely the cervix, curetted the uterus, allowing the escape of about two ounces of pus, and inserted a tube-drainage wick. The patient's condition immediately improved; within two days all sign of uterine infection had subsided, and a week later she began getting up and moving about her room.

All experienced surgeons will agree that so severe and desperate an infection as I have described is often followed by long-continued or permanent invalidism. I looked for some such result in the case of Mrs. Ballinger, but I was most agreeably disappointed. Within a year she had gained thirty pounds, and had gone to live on a farm in the country. To-day, nearly three years after the operation, she is leading a most active life, constantly out of doors, employed about the gardens and the fields, active in the rearing of her three children, and in better health than she has known since girlhood.

Case 93. "Rum and rheumatism" is the legend I find in my journal under the name of Ishmael Jex, Boston, December 27, 1898. This man was forty-eight years old at the time of my interview with him. He was a fair-weather lawyer, employed in looking after his estate and superintending the cuisine of a comfortable club. In early life he had been an athlete, immersed in the affairs of the militia, and in later years he had retired from such activities and found solace in the pleasures of the table, being addicted especially to champagne and other forms of alcohol. For many years he had suffered from what he called rheumatism,—frequent and long-continued pain low in the back, stiff and painful knees, and especially "stiff neck." [1]

On examination, Mr. Jex appeared as a tall, slight, melancholy man, with a left-sided limp, long of body, thin chested, stooping somewhat, and with a marked protrusion of the lower abdominal region. At the time I saw nothing in his case which suggested surgery, as we then looked at surgery, and contented myself with giving him careful directions regarding his diet and abstinence from alcohol.

Two months later, on the 27th of February, 1899, he summoned me hastily in the middle of the night. He told me, with a groan, that my directions had resulted in making him much worse; that all his joint pains had increased, and that he was troubled with continual bellyache. He said that that night especially he was in torture with low abdominal pain, acute and wearing; he was nauseated and his bowels had not moved for three days. On examining his abdomen, I found it slightly distended, with a point of marked tenderness in the usual region of the cecum and rigidity of the right rectus muscle. In other words, he was suffering from a mild attack of acute appendicitis. I suggested, and even urged, the importance of a prompt operation, but he refused flatly, and was unwilling even to see another

surgeon. Accordingly, I did my best to steer him through the attack, and had the satisfaction, two days later, of finding him free from abdominal symptoms. A few days afterward, and while still convalescent, the patient suffered from a severe attack of acute hemorrhoids. Again he refused an operation, and contented himself with the tedious process of treatment by cold douches and appropriate ointments. These accumulated disturbances, acting on an enervated organism, made an invalid of the man for a time. The hemorrhoids subsided slowly, while their subsidence was associated with a troublesome proctitis. The rectal mucosa was evidently extensively inflamed, and discharges of muco-pus were frequent. For some days he refused to allow me to examine the rectum. At length, however, his distress became so great that he consented. This distress seemed to me more than was easily accounted for. He suffered from a continual tenesmus, and assured me that he was never free from cutting pains, running up into the abdomen and down the left leg. At the same time his temperature began to rise, so that one week from the onset of the hemorrhoids the thermometer registered 102°, and his heart was beating at the rate of 110.[2]

On the 7th of March I made a careful digital examination of the rectum. A proper examination by inspection was impossible without the use of an anesthetic. On introducing my finger high into the rectum, which I did against the man's screaming and saltating protests, I encountered a soft, easily bleeding, velvety mucosa, while at the finger tip, as high as I could reach, there was an indurated, rough mass, occupying the posterior rectal region and obstructing the lumen of the bowel. It was not especially tender. My patient immediately turned to me at the end of the examination and demanded fiercely the nature of his ailment. I told him that, so far as I could judge, he was suffering from an acute infection, but that I was unable positively to rule out a tumor. This information prostrated him with grief and anxiety. The next day Dr. M. H. Richa[illegible] saw the man with me, and we examined him carefully under ether anesthesia. We found the condition much as I have

described it. A mass upon the posterior aspect of the rectum impinged upon that organ, apparently involving the mucosa; fixed, in extent the width of two fingers, and admitting a proctoscope with difficulty beyond it. The mucosa over the swelling was eroded and sloughy in appearance. To both of us it seemed highly probable that the mass was malignant but we were not altogether satisfied with that conclusion. For the next three or four days the patient failed perceptibly; his appetite vanished; he became extremely cachectic in appearance; his pulse ran up and down in an uncertain fashion, and he carried a temperature between 99° and 102°. On the 12th of March we decided on a more extensive investigation, and called as an additional consultant Dr. J. C. Warren. After the patient was etherized, my consultants asked me first to dilate the sphincter and thoroughly to explore the rectum, while they looked on with great interest. On dilating the sphincter and introducing my finger cautiously into the bowel, I encountered almost at once the tumor, which seemed to have increased considerably in size and to be softer. As I endeavored to push past it, it suddenly ruptured, allowing the discharge of nearly half a pint of malodorous pus. The diagnosis, accordingly, was settled; we were dealing with a simple case of periproctitis, with abscess. The patient's temperature dropped at once, and within a few days he regarded himself as practically well.

None the less, the cause of this surprising and acute attack puzzled me for some time, until one day, in discussing his toilet habits with the victim, I learned that it was his custom while suffering from hemorrhoids to douche out his rectum daily with cold water. For this purpose he used a small-sized Bidet douche. It appears that one day while so employed, and on introducing the nozzle, he experienced sharp, excruciating pain as he sat upon the douche-bag. Undeterred by this, however, he continued his douche, and injected a considerable amount of water. To his surprise, a small part only of the water returned. From that event he dated severe symptoms. It is evident that in some way he must have pushed the point of the nozzle beneath the mucosa, and so introduced the water into the periproctal

tissue. I have known this accident to happen on one other occasion, when the syringe was in the hands, not of the patient, but of an experienced nurse. It is a calamity which the surgeon should bear in mind when investigating mysterious and acute attacks of proctitis.[3]

[1] As I look back now at this case, it is evident that his excesses in diet, and the resulting chronic intestinal disturbance, resulted in sacro-iliac disease and other forms of arthritis.

[2] The problem in this case is twofold, — the cause and treatment of the general poor condition and the explanation and treatment of the severe proctitis, as I supposed it to be at that time.

[3] About a year ago I was called in the middle of the night to see a gentleman who was suffering from agonizing pain in the rectum. I found him sitting and straining at stool, passing small amounts of blood and groaning in agony. He was inarticulate and I could obtain no story from him. I was obliged to quiet him with morphia and to wait until the next morning before further questioning. The next day, on being cross-examined, his wife remembered that her husband was in the habit of employing nightly a cool water injection to cleanse the bowel, that there hung in the bathroom two fountain syringes, one of which was used occasionally for corrosive sublimate vaginal douches. It was supposed to be kept empty always. Through some carelessness, it appears that my patient had taken the syringe containing the dregs of the corrosive, had added water to it and had injected the combined fluids into his rectum. There followed the agonizing pain which I have described, with acute tenesmus and the passage of blood. Some days elapsed before this patient was able to leave his bed. The mortification of his wife was extreme.

Mr. Jex has gone his way, in varying health, for the past twelve years. He still feebly parades the streets, and reports with pride the sound condition of his rectum.

Case 94. Charles Hodge, a young clerk in the town of Yale, was sent to me on the 27th of August, 1907, by his family physician. He was nineteen years old and had had a somewhat stormy history. Up to one year before I saw him he was very well indeed,— a vigorous, athletic boy. In the summer of 1906, however, he complained a good deal of pain in the *right* loin, and consulted Dr. J. C. Munro, who examined him carefully and had a skiagraph made of the affected region, but discovered no positive lesion. Four months before I saw the patient, his pain had increased, when he consulted a local surgeon, who removed his appendix, without any special benefit. During the twelve months previous to his call on me young Hodge had been so frequently ill that he was obliged to give up work. He had now numerous attacks of pain in the lower *left* abdominal quadrant. This pain was commonly relieved by pressure. When it was most severe it caused him to double up, with groans. Apparently it was in no way related to the action of the bowels or to the urinary tract. At no time had any fever been observed in connection with these attacks. I was told that Dr. Munro thought Hodge to be the victim of ureteral calculus, although no calculus or gravel had been found. The patient consulted me for an opinion regarding his recurring and distressing left-sided abdominal pain.

I found him to be a rather slightly built, but tall, healthy-looking young fellow, with all of his organs sound until I came to the lower abdominal region. His abdomen was easily palpable. Abreast of the crest of his left ilium and in the line of the ureter, in the false pelvis, I could feel a mass, deeply situated, tender, of uncertain consistency, not movable, apparently about the size of an English walnut. It seemed undoubtedly to be a calculus, or an inflammatory mass resulting from a calculus. An examination of the urine at that time showed no blood. I had no x-ray taken, perhaps unfortunately, but the diagnosis at that time seemed so assured that no further investigation appeared necessary.

A week later I visited the young man in his home town and operated upon him, opening down upon the left ureter through a retroperitoneal incision. I found the ureter easily, in its

normal position, but could discover no stone whatever, nor was there anything abnormal in the appearance of the ureter, — no thickening, no adhesions. I then opened the peritoneal cavity, in the sigmoid region, and found that the sigmoid was extensively adherent to itself and to the side of the pelvis. The presumable reason for the adhesions was a diverticulitis, but on carefully investigating I could discover no diverticulum of the intestine. We drained the peritoneal cavity and closed the wound. The patient recovered promptly and soon returned to his old work; but that was not the end of him.

On the 21st of July, 1908, nearly a year after my first interview with Hodge, he called upon me again, by the request of his physician. He reported that for three months after my operation he felt perfectly well; then he began to have frequent, indefinite, abdominal pains, associated with vomiting after food. Sometimes the pain was definitely located in the region of the left kidney, and would shoot down along the course of the ureter. For eight months this condition continued, and the symptoms had increased in severity. The boy had lost five pounds. He told me that he had gone to work as a jeweler, which required constant sitting, and that he felt much worse when at work. He said further that earlier in the summer he had been much improved by out-of-doors sleeping.[1] The only other symptom of any consequence was an obstinate constipation, which was relieved by cathartics, but always with a good deal of general colicky pain.

[1] A good deal in the case of young Hodge suggests what we call associated pains, or neuroses, but we have back of us the definite fact that he had suffered at some time from an inflammation in the pelvis which had left his sigmoid adherent and matted.

On examining the patient again, I found him to be somewhat larger of frame than the year before, though emaciated and hectic. His temperature was 99°, pulse 94. There was an extremely tender point in the left costo-vertebral angle, and he was tender again along the course of the ureter;

the left seminal vesicle was easily palpable and very tender. He now told me that he was troubled with frequent micturition. Indeed, the whole situation suggested strongly a left-sided genito-urinary tuberculosis. I therefore advised him to enter a hospital for tuberculin tests and a proper cystoscopic examination. He did so. Tuberculin tests were negative. A careful cystoscopic examination by Dr. Lincoln Davis, however, was interesting. In brief, he stated that the urine passed was high colored and alkaline, with a specific gravity of 1027, turbid, with a heavy sediment; it cleared up on the addition of acetic acid, showing the presence of an active phosphaturia; there was no albumen. The bladder was practically normal, as were the ureteral orifices, except that there was some slight evidence of irritation in the trigonum, due, doubtless, to the phosphaturia. Both kidneys were shown to be functionating actively. Dr. Davis stated that there was no evidence whatever of renal or ureteral stone.

With rest in bed for a week, and the use of diuretics and urotropin, the young man's symptoms decreased greatly. Indeed, he regarded himself as well, and was allowed to go home. He went home, lived on a somewhat limited diet, with little nitrogen, and took considerable amounts daily of benzoate of soda. I saw nothing of him for two months longer, when he consulted me at the end of September, complaining bitterly that his pain was worse than ever, that he was becoming a debilitated invalid, and demanding that something be done.

Here we were, then, at the end of a year of treatment, with the patient still on our hands, as badly off as ever and no positive diagnosis in sight. I was unable to make any diagnosis of surgical disease. The patient gladly consented, however, to consult an internist, who made a further and most thorough examination. While reaching no vital point which had not already been covered apparently, this physician noted the fact that the patient flushed furiously with his attacks of pain, and that there was to be found high in the rectum, behind one of Houston's valves, an extremely tender point, as though of a slight ulceration. This consultant

pointed out these facts to me, and suggested that the whole difficulty might be regarded as circulatory. He continued the use of alkaline drinks, treated locally the ulcer of the rectum, by gentle applications of nitrate of silver, and put the young man on a course of strychnia, as a general circulatory stimulant. The patient's improvement was instant and remarkable. Within a week he had thrown off his despondency; he found himself relatively free from pain, with improved appetite and bowels, and little rectal distress. A month later he returned to his work, and soon forgot his pains and the directions of his latest physician. However, he continued well for nearly two years, when he consulted me again, this time in July, 1910. I found his condition much as I had seen it in 1907. He was emaciated, querulous, complaining constantly of pain, stating that he was unable to work, pointing to his left renal and ureteral region, and praying for relief. Again I put him at once on the treatment which had helped him so much before,— diuretics, laxatives and strychnia. Again he improved promptly. I have not seen him since, but I am told that his health continues fair, and that so long as he follows a proper regimen of tonics and out-of-doors sleeping he suffers from no more of his old-time attacks.

This is an instructive case — a borderland case, not surgical. There is no climax. The story wanders on and may wander on for years to come, but the significance of a searching examination and the application of first principles is apparent.

Case 95. The following case presents a problem of some ethical interest, though the pathology involved is simple and rather unimportant.

On the 21st of October, 1909, Mrs. Rebecca Snow, twenty-four years of age, consulted me on the advice of her physician. She was five months married and stated that she had been far from well for more than eight years. While always a robust, ruddy and vigorous-looking girl, she said that she had suffered from recurring anal fistulæ and discharges of pus from the rectum since she was sixteen years old. I was obliged to assume that her habits had been good and that she had never suffered from venereal disease. She said that she had been operated upon three or four times for fistula, but without permanent benefit.

When she consulted me Mrs. Snow was a plump, well-developed looking young woman, who seemed to have herself perfectly in hand. On careful rectal and vaginal examination I detected, deep in the recto-vaginal septum, a broad, firm, cicatricial thickening, pressure on which caused the escape of pus from a minute opening in the right buttock one inch behind the anus, while on my slightly distending the sphincter, pus oozed from the anus also.

I sent the patient to a hospital, and operated on her there the next day, with the advantage of having present her family physician, who had known her since her childhood. On dilating the sphincter and examining carefully the rectum, I developed again the deep induration in the recto-vaginal septum, which was the base, apparently, of an abscess. Several ounces of muco-pus escaped from the rectum. On passing a probe through the lower sinus in the buttock it entered the rectum. I laid open the sinus and carefully dissected it out. The sphincter was not markedly damaged by this little operation. Careful inspection of the rectum showed further a marked and extensive proctitis, evidently the primary source of the pus. The sacrum and coccyx were not involved. After these manipulations the recto-vaginal induration disappeared. I packed carefully the track of the old fistula,— which, by the way, was the only fistula present, while there were no evidences of

former fistulæ or other operations,— and washed out the rectum, giving directions for daily irrigations of the bowel with argyrol.

This patient made an excellent convalescence and went home two weeks after the operation. Some five days before she left the hospital, her husband, an active young mechanic, but a rather loose fish about town, consulted me about himself. He came to the point at once and admitted that since his wife's illness he had been unfaithful to her and had contracted gonorrhea. He asked my advice regarding treatment. I pointed out to him the difficulty, if not the impropriety, of my caring for him, and referred him to another surgeon for treatment. Thereafter the wife came frequently to my office for consultation and treatment. The fistula wound closed well and the sphincteric action was restored completely, but her proctitis persisted for a long time. For a year or more, at proper intervals, I saw her and gave her directions regarding weak silver irrigations, which she was able to take in large amounts and eventually of considerable strength. At length the inflammation subsided and she became practically well.

In the course of this experience, and perhaps two weeks after my interview with her errant husband, she came to me in great distress, saying that she had developed a new difficulty and was convinced that she had contracted gonorrhea from her husband. A careful examination revealed little or nothing save a slight catarrhal discharge from the cervix. A number of investigations failed to discover the diplococcus of Neisser. I had her take a few creolin douches, and in the course of a couple of weeks the apparent disturbance disappeared entirely, so that I felt justified in assuring her that she had no evidence whatever of gonorrheal infection. Some six weeks after the husband's mishap, however, the wife came to me again and asserted her conviction that her whole illness was due to her relations with her diseased husband. She denied flatly her previous story that she had had fistulæ and proctitis for eight years before marriage, and attempted to convince me that her rectal disturbance was due to marital infection. She then consulted her at-

torney, an unscrupulous lawyer, whose main purpose seemed to be to make trouble for me and to expose the misfortunes of his client. The question put to me and the proposition which I was threatened with as a witness on the witness-stand was, — Had Mr. Snow consulted me regarding his own health; did I find him to be suffering from gonorrhea; and was it reasonable to suppose that he had infected his wife? I refused positively and at once to have any dealings with Mrs. Snow's attorney. I notified Mr. Snow of the nature of his wife's inquiry, and informed the surgeon to whom I sent him of the situation. At least once a week during several months thereafter the woman's attorney either came to see me or called me on the telephone, threatening exposure of the wife, assuring me that my professional knowledge was at the disposal of the court, asserting that I was concealing an act which was little short of criminal, and promising without fail to cross-examine me on the witness-stand. Meantime the woman had brought suit against her husband, and in her visits to my office continually referred to its development. I was informed by the husband's attorney, an excellent man of high professional standing, that his client had no intention of contesting the suit, that he admitted his infidelity and was quite willing to let the law take its course; moreover, as he was a poor man, there seemed no possibility of his being able to pay damages for the havoc he had wrought.

As I look back upon this annoying and repulsive experience, I feel satisfied that the course I took was the correct and proper one. Had the man continued to live with his wife, it might have been my duty to warn her against him, but under the circumstances, as a physician, I believe that I did all that was necessary to save the pathological situation. So far as I was concerned, the case eventually came to nothing. The woman's attorney was finally wearied by my attitude, and tacitly admitted that he would be unable to force from me a statement of the husband's ailment. Eventually, the case was settled by divorce, and the woman was happy enough to be freed from her incumbrance. I still see her occasionally. The proctitis has practically subsided, and I regard her as being as well as she is ever likely to be.

THE SCROTUM.

Case 96. Young Marcus Crawford, hailing from St. Louis and an undergraduate in Cambridge, called to see me on the 18th of October, 1909. He was twenty years old. His story was that some five days previously, while taking part in a college celebration over an athletic victory, he had been roughly pushed across a board fence, which he was forced to straddle violently, with the result that his perineum and scrotum were badly bruised. He thought it possible that he might have been struck in a football scrimmage in the same anatomical region a couple of weeks previously, but of that he was not certain. For three or four days he had noticed a swelling of the right testicle, and was troubled about the nature of the condition. He had always been a healthy lad and came of vigorous stock on both sides of the family, in which there was no tuberculous taint. He had never had venereal disease, and was regarded in college as typical athletic material.

I found young Crawford to be a tall, ruddy, well-developed lad, without any obvious sign of physical disorder until I examined the scrotum. The testicle itself seemed of normal size, but the epididymis was markedly swollen and was as large as a half of one's closed fist. There was no pain in the region and little or no tenderness. Considering the story and the young man's previous history, it seemed that he was suffering from a traumatic epididymitis.[1]

[1] Traumatic epididymitis and traumatic orchitis are less rare than is commonly supposed. In considering tumors within the scrotum, one must bear in mind, however, that the variety of such tumors is great, inasmuch as the contained structures furnish a histology which may give rise to an unusual variety of growths. One thinks especially of sarcoma, of tuberculosis, of dermoid tumors, hernia, hydrocele, hematocele, gonorrheal epididymitis and orchitis, and that somewhat rare lesion, twisted cord, with strangulated testicle.

I sent the patient to a hospital and put him to bed, for rest and observation. Three days later the swelling had decidedly diminished, and the improvement continued for ten days, when I allowed him to go back to his quarters at college. I saw him occasionally during the next month, but after the first two weeks the condition remained practically unchanged. On the 22d of November he came to my office, at which time I made the following note of his condition: "The right epididymis and cord are still large, hard and heavy. The cord is easily traced up into the ring. By rectum, the right seminal vesicle is felt, for the first time, and the prostate seemed slightly enlarged and hard on the right. The patient feels absolutely well, and wishes to postpone any further treatment for a week. I advise further hospital care and tuberculin tests." By this time I had begun to feel seriously uneasy about the lad's condition, and wrote to his father, in St. Louis, that his progress was unsatisfactory and that I suspected the presence of a tuberculosis. The father was naturally much troubled, and came on at once to Boston. I saw him with the boy, on November 29, one week after the date of the previous consultation. On that day there was little change to be noted in the physical examination of the young man. The epididymis was decidedly swollen and the globus major hard; the cord also was distended and hard; the prostate and right seminal vesicle were easily palpable and a cord-like vas could be detected.

I sent the patient at once to the hospital for further investigation, and started a series of tuberculin tests. On that day Dr. F. B. Harrington saw the patient with me, and agreed that in all probability the case was one of genito-urinary tuberculosis. The father, in his anxiety, in the meantime had consulted his family physician in St. Louis, a man of wide acquaintance, who suggested our securing the opinion of a well-known genito-urinary specialist in Boston. This last consultant saw the patient with me two days later. He was positive that the case was not one of tuberculosis. He is a man of the widest experience, and after a careful investigation decided that many of the characteristic signs of tuberculosis were wanting. His conviction was that we

had to deal with a slight chronic twist of the cord, probably induced by the rough handling at the board fence which I have described. Three days later another tuberculin injection was followed by no reaction, and this result seemed to go far towards justifying the diagnosis of a traumatic disturbance, rather than tuberculosis. All this time the general condition of the patient remained excellent, but the case was one extremely trying to all the consultants, as an assured diagnosis was extremely important and the anxiety and concern of the boy's parents were becoming daily more critical. Perhaps, fortunately for all concerned, the third tuberculin test appeared to clear up the diagnosis. This was made on the 3d of December, six days after the first test. This third test gave a marked tuberculin reaction. The temperature rose to 103°, the pulse to 110, and Dr. Floyd, the expert in the work, reported: "I regard this as a typical tuberculin reaction, moderately severe, as shown from the temperature, nausea and vomiting, the chill and the patient's red arm." Somewhat elated over this presumably final demonstration, I met again in consultation the specialist to whom I have referred. We agreed that the patient's epididymis showed no local disturbance after the tuberculin, but we discovered a marked tenderness and a slight tumor in the region of the right kidney. My consultant continued to regard the scrotal lesion as possibly due to twist of the cord, but admitted that there might be present a renal tuberculosis, and agreed with me that an exploration of the contents of the scrotum was justifiable.

At this point the parents of the young man informed us that they had decided to remove him at once to his home in St. Louis, where a local surgeon would perform the indicated operation. The day before the patient's removal from the hospital a careful urinalysis was made, with the following result: "Urine: normal color, cloudy, acid, a large trace of albumen, no sugar, uric acid increased. Sediment: some blood corpuscles, numerous leukocytes, sufficient in amount to cloud the urine, occasional squamous and large and small round cells, no casts. The urine was centrifuged and one portion stained, for tubercle bacilli; they were absent.

A second portion was inoculated into a guinea pig." The date of that report was December 6. On the 1st of January, 1910, I received the following note from Dr. Floyd: "The guinea-pig inoculated on December 6 with the centrifuged urinary sediment obtained from the urine of Mr. Crawford showed at autopsy to-day a caseous mass in the abdominal wall. Smears from the wall of the cavity showed numerous tubercle bacilli to be present."

Meantime, and after the departure of the patient for St. Louis, I received numerous letters from his family and his physician. The upshot of it all was that after due consideration an operation on the scrotum was performed. The testicle and cord were removed and found to be markedly tuberculous. Fortunately, the patient reacted vigorously and recovered shortly from the ordeal. Since that time his condition has greatly improved. The kidney was found to be tuberculous, as evidenced by the condition of the urine and the presence of tubercle bacilli, but after a course of six months out-of-doors life the trouble cleared up, and now for many months there has been no evidence of tuberculosis in the young man.

There is a good deal in this case which is instructive and interesting; the fact that the patient could run a considerable course of marked tuberculosis without constitutional disturbance, feeling all the time strong and vigorous; the difficulty of the diagnosis, which was established finally by guinea-pig inoculation; the prompt recovery of the patient after the operation; and finally the marked permanent improvement which resulted from a prolonged out-of-doors life, even after the obvious establishment of a renal tuberculosis. This patient came from the best of surroundings and an extremely intelligent family. Doubtless he was seen as early as these cases are ever seen, and received the most vigorous and appropriate treatment. Our conclusions are therefore encouraging and gratifying, so far as one may draw conclusions from a single case, namely,— that a pronounced genito-urinary tuberculosis, when submitted to appropriate, energetic and prolonged treatment, may subside, and the patient return to a normal and healthy life.

Case 97. The experience of the Rev. John Aquinas illustrates a pathetic and tragic case, rather than a puzzling surgical problem, but the story is so unusual and the psychic element so prominent that it seems worth recording. I give the sequence of events as they were presented to me.

On the 20th of March, 1899, a veiled lady, fragile and timid, came into my office late in the afternoon. She did not raise her veil, nor in my subsequent interviews with her did I ever see her face. She told me that her husband, a clergyman, Mr. Aquinas, the incumbent of a large parish in the north of England, was seriously ill; that his illness was of such a nature as to preclude his consulting his family physician; that the disease had now run on for three months; and that, in desperation and distress, he had resolved to come to this country to seek advice. She stated that she supposed the ailment was a disease of the scrotum, but she could tell me little more. At the time of her visit her husband was in New York, awaiting the result of her consultations in Boston. She said that she had gone to the Massachusetts General Hospital, and from there was referred to me, as I was then on duty there. She asked me if I would undertake the charge of the case. On my promising to do what I could, she said that the patient would arrive in Boston in a very few days.

Four days later I was summoned to a neighboring hotel to see Mr. Aquinas. The door of the apartment was opened to me with much mystery, and I was ushered into a bedroom where the patient sat in his bed, and almost before I was in the room began an excited and lachrymose story. He said that he did not know whether I would be willing to help him or not; that, as a clergyman, the conditions of his illness were tragic and shocking, and the circumstances as follows: Some three months ago he went to London to attend a church convention, leaving his wife and six children at

home in the Provinces. While in London he was taken ill with acute rheumatism, and supposing that a Turkish bath and massage would help him, he had inquired the way to a proper Turkish bath establishment. After the bath he asked for massage, whereupon there came into the apartment where he lay a young woman, who turned out to be of evil character. She massaged him and he remained with her some half hour afterward. He then left the establishment with a feeling of horror and disgrace, realizing that he had offended against the moral code. All that night he walked the streets, in the greatest mental distress and remorse. Five days later he discovered that he was the victim of an acute gonorrhea. The next three months registered a record of the greatest mental anguish. He dared not consult a physician, he dared not employ quack remedies, for fear his identity should be discovered; in fact he went on without treatment. At once, on his return home, he made a clean breast of the affair to his wife, who accepted the situation and did all in her power to relieve and sustain him. Finally the disease, which had run on with great virulence, involved his bladder and right testicle. Then, in desperation, he took ship and came to America, with the purpose of seeking proper advice and treatment at the hands of some person unknown to him and his circumstances. He assured me that up to the time of his recent misfortune he had always been strong and vigorous, had never indulged in stimulants, and, although of a nervous temperament, had been effective and useful in his profession.

On examination, I found the patient to be a man of forty-five, tall, sandy, strong of feature and highly intelligent. He was well developed, but greatly emaciated. He was in every way sound save for the disease in question. On examining the urethra I found it to be but a little involved; the urethritis had practically disappeared; there was no stricture, and an examination of the urine showed merely a very slight degree of cystitis; the right seminal vesicle was full, hard and tender, and the prostate was somewhat enlarged on the right; the left scrotum was not abnormal, but on the right side was a mass about the size of a man's fist, brawny, tender,

smooth, and at one point fluctuant; the mass was so extensive and the swelling so uniform that the epididymis could not be properly distinguished. At first it seemed possible that the inflammatory process might be subdued by ordinary measures, and for two days I endeavored to allay the progress of the inflammation by rest and applications. At the end of that time, however, it was evident that such measures would prove ineffective. Accordingly, and with some hesitation, I broached the subject of orchidectomy to the patient, feeling that, in his then mental condition, the thought of any venereal crippling might prove a great shock. On the contrary he accepted the situation with the greatest alacrity, evidently feeling that the loss of a testicle must be regarded in some sense as a punishment for offense, and that doubtless prompt recovery would result.[1] The only stipulation made by the patient was that no one should know the nature of his ailment. At first it seemed almost impossible to meet this wish. However, I got around the problem by informing the hospital to which I sent him, and my assistants, that the case was one of tumor of the scrotum.

Two days later I operated, and by the high incision, a method which enables the surgeon to clean out the scrotum easily and often without exposing the nature of the tumor.[2]

[1] The necessity for orchidectomy is extremely rare in cases of gonorrheal epididymitis; indeed such necessity should only arise in cases of long-neglected disease. Such was the situation in the patient under discussion. The infection of the epididymis had taken place six weeks before I saw him, and the destruction of tissue was apparently complete.

[2] For many years I have employed the high operation for disease within the scrotum. The technique consists in opening down upon the spermatic cord, as though one were operating for inguinal hernia. The incision is carried down to the base of the scrotum, when with a little manipulation it is an easy matter to turn out the contents of the scrotum into the abdominal wound, after which the necessary treatment may be carried out at ease, with all the parts in sight and in hand. This measure is applicable especially to all forms of tumors which do not involve the skin, and to hydroceles. A further advantage of the method is that the wound is placed in an easily accessible and convenient position, that

the scrotum itself is not opened except from above, and that the subsequent dressings and care of the wound are facilitated and made easy for the patient himself. A snug suspensory bandage should always be worn during convalescence.

I found no difficulty in turning out the infected mass and amputating the cord high in the canal. Subsequently, on examining the mass, I found it to be a collection of broken-down material, swimming in pus. The wound was closed with drainage, and the patient made a prompt and satisfactory recovery. Seven days after the operation sound primary union was established.

I was greatly interested in this patient. He was a man of unusual force of character and intellectual capacity. I have heard from him many times in the course of the last ten years. After returning home he took up vigorously his work again, and has often assured me that the harsh experience, the sense in himself of having fallen victim to temptation, and his realization of personal human error had immensely increased his capacity for usefulness. I learn that he is still at work in the successful conduct of a large parish.

ABDOMINAL ADHESIONS.

Case 98. Bridget Flanagan entered the Massachusetts General Hospital on the 15th of February, 1911. She was said to be the victim of extensive abdominal adhesions. She was forty years old, and for three years had been an invalid. She herself and the records of the hospital told the following story: Married at twenty-five and always a hard-working woman, she had borne three children, and had enjoyed excellent health up to the age of thirty-seven. There was no history of severe sickness, nor was there the common story of dyspepsia. She had suffered all her life, however, from an obstinate and difficult constipation. During the year 1907 her present ill-health began. Four times during that year she suffered from what appeared to be attacks of moderate appendicitis, with slight fever, pain and tenderness in the usual region, nausea and vomiting and several days of inflammatory obstruction to the bowels. Finally the condition became so urgent that she entered the hospital for an operation. The appendix was removed, and the records state that it was the seat of a mild, catarrhal inflammation. One year later she became the victim again of indefinite abdominal pains, with distress after food, increasing constipation and frequent attacks of nausea, associated always with distressing pain in the right side, not far from the site of the old scar. A careful examination at that time showed the right kidney to be prolapsed. Accordingly, she submitted again to an operation, which consisted in fixing the kidney firmly in a normal position. The operation was regarded as successful. Six months later her old symptoms recurred; indeed, they had never entirely subsided, except as she lay in bed. This time there was added to the former distress much headache and attacks of what she described as bilious vomiting. On one occasion she was jaundiced. Again she entered the hospital, and for the third time was operated upon. The abdomen was opened

high, a few adhesions were found about the gall bladder and duodenum, the bile ducts were explored, but nothing found, and the gall bladder was drained. She went home, regarding herself as cured, but three months later she was prostrated again with an exacerbation of her former symptoms to which were now added deep and distressing pelvic pains, with agonizing dysmenorrhea. For the fourth time she entered the hospital and was operated upon. On this occasion her pelvis was opened from above, and a small, cystic left ovary was removed. At the same time the uterus was suspended. She recovered from this operation, and went back home to take up her usual work and cares. She did not recover her health, however, and was in constant misery, with some change now in the previous symptoms. The distress immediately after food, and the nausea persisted; she was troubled with a constipation so obstinate that her bowels were moved with difficulty not more than once a week; there was great and continuous flatulence and bloating and almost continual pain and tenderness in the epigastrium. Undismayed by the failure of previous operations to relieve her symptoms, the patient again submitted to an exploratory operation, undertaken with a view to breaking up adhesions. At this operation a few adhesions between the stomach, gall bladder and duodenum were loosened and the abdomen was closed. After going home her symptoms were decidedly relieved; her nausea and much of her general pain disappeared, though her constipation was as bad as ever. In a short time a new series of pains developed, this time in the region of the splenic flexure and sigmoid. This pain came on with great severity whenever she walked about and occurred occasionally even when she was lying down. She took to her bed and remained there until the middle of February, when she again entered the Massachusetts General Hospital, in my service.

On examining Mrs. Flanagan I found her to be a well-developed and fairly well-nourished woman, somewhat haggard in appearance and decidedly despondent. Her thoracic organs were sound, but the abdomen presented a series of scars, as one would expect. The pelvic organs were in good posi-

tion and not troublesome. There was no special pain or tenderness over the right side of the abdomen; on the left side, however, there was marked tenderness, especially on light palpation in the region of the sigmoid, and tenderness especially marked in the neighborhood of the spleen. There were certain features about her anatomy which have not been previously noted: The costo-iliac space was extremely narrow, admitting barely a single finger between the ribs and the crest of the ilium; when she stood the lower portion of the abdomen protruded and was markedly tympanitic; her posture was stooping. These conditions, together with the long train of symptoms, unrelieved by various operations, suggested the possibility of a general intestinal ptosis, especially when one considered the splenic pain, the obstinate constipation and the fact that she had been operated upon for floating kidney. Accordingly, we had taken a series of bismuth x-ray plates. These plates showed at once a decided abnormality in the colon. The cecum was in its proper position, but the ascending colon buckled down shortly after rising above the crest of the ilium, while the transverse colon fell into the pelvis, and as it rose towards the splenic flexure lay so close to the descending colon that it seemed as though the two might be united by adhesions; the splenic kink was much accentuated. I then learned a fact which is characteristic of these cases of splenic obstruction. I was told that the patient's stools, which were passed with difficulty, were of the nature of sheep's dung, the masses being small and round like marbles. The x-ray plates also, when carefully studied, showed the bismuth in the colon to take on the form suggested by the stools. Accordingly, I determined on an exploration, primarily to break up the possible adhesions, but also to do any operation which seemed indicated in order to relieve the splenic obstruction.

On opening the abdominal cavity I found few or no adhesions anywhere in it. The transverse colon was in the position in the pelvis indicated by the x-rays. I made an anastomosis, accordingly, between the transverse colon and the sigmoid, where the two loops of bowel lay together. I then followed up the descending colon, with the purpose

of excising it, together with the distal portion of the transverse colon. In this dissection I encountered a curious abnormality: On releasing the descending colon and excising it up to and beyond the splenic flexure, I found that it plunged deeply towards the median line and apparently disappeared beneath the mesentery of the small intestine. Leaving the dissection at that point, I then cut off the distal portion of the transverse colon beyond the anastomosis and excised it in turn. On tracing it up through the abdomen, I discovered that it joined the descending colon beneath the mesentery of the small intestine, as I have already indicated. The whole excised loop, on being freed from its attachments, was then found to lie completely encircled by an apparent rent in the mesentery of the small intestine, so that I could draw it back and forth through the hole or bridge formed by this mesentery. Such a condition is certainly extraordinary and almost unaccountable. I removed the loop of large intestine, leaving the anastomosis between the sigmoid and transverse colon to carry the fecal stream.

The patient had a stormy convalescence, but rallied gradually, so that in the course of two weeks she was out of danger. The operation apparently was all that was needed to relieve the intestinal obstruction and to establish normal action of the bowels. The left-sided pain disappeared, and the patient's condition at last accounts was satisfactory.[1]

[1] In reviewing this case and summing up the series of operations and disablements from which the patient suffered it is fairly obvious that her trouble, from the beginning, was due to a congenital ptosis of the transverse colon, associated with the remarkably abnormal course of that viscus through and beneath the mesentery of small intestine. This peculiar position of the gut obviously accounts for the gradually increasing obstruction, which I believe now was undoubtedly the one and only cause of the patient's sufferings.

Case 99. Probably no region of the body offers more opportunities for difficult diagnosis, and for errors in diagnosis, than does the abdominal cavity, especially when we reflect that not infrequently thoracic disease is mistaken for abdominal disease.

On the 15th of January, 1909, I was asked to go to a neighboring college town to see in consultation a young woman student. She was nineteen years of age, and I secured the following history: She was one of six children. Her father died by accident several years before I saw her, but her mother was still living, and was a pronounced neurasthenic invalid; that is to say, since becoming the mother of many children she had developed marked dyspeptic symptoms, was the victim of headaches, and spent much of her time in bed or on the sofa, without relief from medicine or medical care. The girl student whom I saw had suffered in childhood from measles, scarlatina and whooping-cough, but in general had always been regarded as well, though her digestion was not particularly strong, and even up to the age of fourteen she vomited easily after a hearty meal. Nevertheless, she had grown up a robust girl, was active in body and mind, and entered college at the age of seventeen. Four years before I saw her, while coasting, she received a severe blow on the right side of the abdomen, which laid her up with pain and soreness for some two weeks. One year later, or three years before my visit, she had symptoms of appendicitis, — tenderness in the region of the appendix, unusual constipation, nausea, and on two occasions a slight rise of temperature. Her family physician in the country made the diagnosis of appendicitis in the year of 1906, and removed the appendix, announcing after its examination, "chronic interstitial appendicitis." The patient went on without disturbance for two years thereafter, but in 1908 she began to suffer from recurring attacks of frequent severe pain about the appendix wound. So distressing did these become that her physician again operated. On the occasion of my seeing the girl, I talked with him over the telephone, and learned that at the second operation he found the omentum glued against the anterior abdominal wall, but nothing

more that was abnormal. He loosened the omentum, but no special relief followed. The attacks of pain continued at varying intervals. In November, two months before I saw the patient, she was taken with an unusually severe attack of abdominal pain, and sent for the college physician. This gentleman found her in great distress, with a temperature of 99°, distention, nausea and occasional vomiting; in other words, symptoms suggesting an intestinal obstruction. She recovered, however, under rest and careful medication, and was perfectly well until the day before my visit. On that day, January 14, 1909, she suffered again from an acute attack of abdominal pain, with vomiting. Her temperature rose to 100°, but her pulse remained steady at 80. At that time there was slight abdominal distention, which was relieved by calomel and Epsom salts. Six hours later, however, there was another attack of pain, localized especially at the site of the old appendix. The temperature rose to 101°, the pulse to 90, and there was every evidence of an acute obstruction.[1] The physician in the case was obliged to resort to morphia, which he gave in quarter-grain doses three times before he was able to relieve the patient's distress. Six hours after the last dose, that is to say, at eleven in the morning of the 15th of January, I saw her.

She appeared as a robust, florid girl; her weight was one hundred and fifty-four pounds, and she did not look very ill. Her whole abdomen was slightly tender, but especially tender one inch above the middle of the old appendix scar. Deep palpation was impossible, in spite of the morphia. She was also excessively tender, superficially, all about the scar.[2]

In view of the recurring attacks of obstruction and their increasing severity, it seemed to me that we were justified in performing an exploratory operation. Accordingly, I had the patient removed to a Boston hospital, which she reached the next day in much improved condition. One day later I operated, with the patient under gas and oxygen anesthesia. I excised the old scar and opened the abdominal cavity, when there appeared at once a great mass of dense adhesions extending in various directions. One stout ad-

hesion especially tied the caput ceci against the pelvis, another extended from the pelvis to the transverse colon and held that viscus down against the pubes; the omentum also was wrapped tightly about the caput. In other words, here were conditions difficult and formidable enough to account for the attacks of obstruction.[3]

[1] Severe attacks of abdominal pain in a young person, associated with evidence of obstruction, suggested a variety of serious conditions. Perhaps the most common is intussusception; volvulus, in cases of a colon with a congenitally long mesentery, may occur; not infrequently one finds internal hernia, especially in the retrocecal pouch and in the duodenal fossa; then there is always the possibility of obstruction by a band or adhesions following an operation. In the case of our present patient the pain, always localized in the right inguinal region, suggested intussusception, hernia and strangulation by a band.

[2] Superficial tenderness about the site of an old scar is common. Frequently it is assumed to be due to a neurotic condition. In more than one case I have found it to be due to a persistent neuritis, and have relieved the pain by resecting neighboring nerves. In the case of abdominal adhesions in the neighborhood of an old operation, superficial tenderness is frequently seen, though the cause of such tenderness is not altogether apparent.

[3] Various observers have reported cases of extensive adhesions associated with old operations. Sometimes such adhesions are formidable and dangerous; sometimes they are harmless enough. It is worthy of note that the most serious adhesions are apt to be those associated with intestinal ptosis, since the adhesions when formed readily tie down and obstruct the displaced bowel. The question is often asked — Why free adhesions, when they are sure to form again? The answer to this query rests in the fact that the great majority of adhesions do no special harm and rarely cause pain. When disturbing and painful adhesions do exist, they should properly be broken up, even though the formation of secondary adhesions is inevitable, because of the chance that the secondary adhesions will so form as to group themselves in the harmless and painless class. The value of Cargile membrane as a preventive of adhesions is questionable. I did not use it in this case; I have used it in other cases. I have been unable to see that it makes any special difference in the after-condition of the patient.

No sign of the appendix was found. The abdomen was closed tightly, without drainage, and the patient was returned to bed in excellent condition, where she promptly recovered from the anesthetic without shock and without special discomfort.

The encouraging fact about the case is that the operation entirely relieved the patient of her symptoms. Two years later I heard from her physician, who reported that she continued in excellent health, was robust, vigorous and athletic, and had no further evidence of abdominal disturbance.

Case 100. Deacon McQuestion, of Horse Heads, was seventy-three years old when he suffered a sudden and serious illness, in November, 1909. Even at his advanced age he persisted in following his calling as a traveling salesman, and it was on one of his trips to New York for a firm of Boston importers that he became acutely ill.

This patient's previous history had been in no way remarkable, so far as I could get at it. He married young, and was the father of two middle-aged daughters. He had always been well, so he said, except for a chronic eczema which troubled him much during middle life. He had not missed a day from his work for forty years, and with the advance of old age suffered merely from general weakness and lassitude, was easily tired and had a rather small appetite. He had never suffered from renal or bladder disease, and his eyes were remarkably bright and piercing. Regarding his immediate illness, he told this story: He was in New York, and took the five o'clock afternoon train to return to Boston, where he had lodgings. While on the train, halfway from New York, he suddenly experienced a great desire to micturate, but on endeavoring to empty his bladder found that the stream was obstructed, so that he could pass but a few drops only. Greatly alarmed, he walked the car for nearly two hours, endeavoring every few minutes to empty his bladder. With the passage of time, pain in the bladder came on and increased, so that when he reached Boston he was in a state of collapse. He was lifted from the train, put into a cab and driven to his lodgings, where he summoned his physician. The physician told me later that Mr. McQuestion's condition puzzled him extremely. On reaching him shortly before midnight, he expected to find the cause of the obstruction to be an enlarged prostate, but on examining that organ by the rectum he could discover a prostate of only moderate size, which did not seem to account for the obstruc-

tion. He then endeavored to pass a sound, but could advance it to the triangular ligament only. Then he used a number of stiff catheters, but after the second attempt drew nothing but blood. In the mean time the patient was suffering greatly, and was relieved by morphia. As it was now two o'clock in the morning, with the patient exhausted and the physician in increasing anxiety, he sent for me to assist him.

It was clear to me, on seeing the patient, that the first thing to do was to empty the bladder, and as it was obvious that false passages in the urethra existed, and that the passage of a catheter might be impossible, I aspirated the bladder above the pubes and drew off about fifty ounces of urine, which proved to be of fair quality, and showed on careful examination the existence of senile kidneys merely. The next day, with the patient under anesthesia, I endeavored to find a passage through his urethra, but was unable to do so, owing to the presence of a false passage. At the same time, on examining the prostate, in my turn, I could see little reason why it should have caused so pronounced an obstruction. Accordingly, I determined to drain the bladder from above, and so allow the urethra to heal. With suprapubic drainage established, the patient's symptoms were completely relieved for a time, and he went on apparently to convalescence. A week later, on a more careful examination of the urethra, it was evident that the obstruction was due, in part at least, to an old, organic stricture of large caliber, which accounted for the difficulty of my consultant in penetrating to the bladder, and for the formation of the false passages.

Nevertheless, the patient did not improve. He began to suffer acutely from headaches, for which the state of his urine did not account; his eyesight began to fail and his digestion became greatly disturbed. Almost all food nauseated him, and he endeavored to vomit occasionally even with the stomach empty.[1] The situation appeared alarming. Repeated examinations of the urine showed it to be in no great degree peculiar; the suprapubic wound was closing well, and a soft catheter was admitted readily by the urethra. At the end of two weeks the suprapubic wound was prac-

tically healed, and the patient had been able for two or three days at that time to void urine voluntarily. One night, however, on attempting to void, he found himself incapable of passing any water. Immediately he became alarmed, anticipating a recurrence of his retention. I was sent for, and on learning that no urine had been passed for ten hours I succeeded without difficulty in emptying the bladder by means of a soft rubber catheter. Another week went by. The patient's general health was becoming greatly impaired; his headaches were more frequent and racking; and his eyes began to give him the greatest trouble, with blurring of vision and almost total inability to read coarse print. Accordingly, I had an examination of his eye-grounds made, when, much to my interest, my previous suspicions of intracranial trouble were confirmed by the discovery of bilateral choked disk, of moderate degree. It was evident, therefore, that the patient was suffering from some form of intracranial tension, and the most probable suggestion was brain tumor. On carefully discussing with him his previous health, I then learned for the first time that some fifteen years previously he had suffered for a short time from what apparently was syphilis, and syphilis innocently contracted. If he had a primary lesion at all, it was on the lip. He had had enlarged lymph-nodes of the neck and a fairly active skin eruption, but under proper treatment his symptoms disappeared and he regarded himself as well, although the treatment was continued for some nine months only. Our problem was now approaching solution, and I was forced to the conclusion that the underlying difficulty with the patient was a brain tumor, presumably a syphiloma or gumma.[2]

[1] Up to this point in the history of this patient's illness various questions arise which demand answers: Why should an apparently non-obstructing prostate, or a stricture of large caliber, have caused a sudden retention? What measures should the attending physician have taken in order to escape the making of false passages? Why should a brief period of retention, followed by satisfactory and permanent drainage, have become associated with increasing and racking headaches? These three questions are in a sense interdependent. Careful reflection convinces one that we must

look beyond the local conditions for the cause of the retention. The attending physician should have avoided the use of stiff catheters, and have employed soft rubber catheters only to empty the bladder. The headaches suggest, — uremia, a local neuralgia, disease within or without the skull box proper, digestive disturbances, general disease, especially suppurative disease.

[2] The trilogy of symptoms,— headache, choked disk and vomiting, suffices for the establishment of the diagnosis *brain tumor* usually. At any rate, when persistently present, they indicate a progressive rise of intracranial tension. The practitioner must not forget, however, that a neoplasm, a brain tumor of the organic type, may exist within the skull of a person the victim of syphilis. We are all familiar with the fact that the active administration of iodide of potash will relieve many cases of so-called brain tumor. This is because the tumor is of syphilitic origin, and the iodide of potash reduces the syphiloma. One cannot too often repeat the warning, however, that persistence in the use of iodide of potash *without* marked improvement in the symptoms is extremely dangerous. The suspected tumor may not be syphilitic; therefore the iodide of potash is without benefit. Furthermore, a densely encapsulated gumma may not yield to anti-syphilitic remedies, so that the failure of the iodide of potash to improve the condition does not mean necessarily that the disease is non-syphilitic. It is a good general rule to drop the iodide and proceed to operation for the relief of the symptoms in case the iodide has failed to improve the patient's condition after a lapse of two — at the most, of three — weeks.

This brain disease undoubtedly had inhibited the action of the bladder, so that the distention from which the patient suffered on his railway trip was due to a lesion of central origin, and not to the local obstruction which was at first suspected.

I immediately instituted a course of iodide of potash for Mr. McQuestion, and pushed it vigorously, running it up in a few days to ninety grains a day. Somewhat to my surprise, the result was satisfactory. By the end of ten days his headaches had greatly diminished in violence and in frequency, his nausea had subsided, and the condition of choked disk was materially improved. By the end of a month all his symptoms were so much better that I regarded him as

practically well. Coincident with the improvement in his head symptoms, the state of the bladder improved also. He had no longer any tendency to retention, and after the passage of a few sounds the slight stricture ceased to trouble him at all. This patient has been under my observation now for some sixteen months. He still takes iodide of potash in small daily doses; his general condition is excellent, and in spite of his advanced age and laborious life there seems good reason to believe that he will live for several years to come.

DIAGNOSES.

CASE.

1. Retroperitoneal hernia (duodenal ulcer).
2. Pyloric obstruction.
3. Pyloric obstruction.
4. Duodenal ulcer.
5. Pyloric obstruction.
6. Appendicitis.
7. Cancer of the stomach.
8. Carbuncle of the lip.
9. Ovarian cyst (epilepsy).
10. Stenosis of os uteri (epilepsy).
11. Sarcoma of kidney.
12. Perforating wound of abdomen.
13. Undeveloped uterus, stenosis of os.
14. Cancer of breast.
15. Fibro-cystic tumor of breast.
16. Cancer of breast.
17. Spasm of sphincter ani.
18. Spasm of pylorus and of sphincter ani.
19. Debility, and spasm of sphincter ani.
20. Constipation, and spasm of sphincter ani.
21. Duodenal ulcer.
22. Duodenal ulcer.
23. Duodenal ulcer.
24. Myoma uteri; retroversion.
25. Salpingitis (pneumonia).
26. Procidentia.
27. Concussion of brain.
28. Fracture of base of skull.
29. Concussion of brain with loss of memory.
30. Fracture of base of skull.
31. "Surgical kidney."
32. Chronic pyonephrosis.
33. Acute hematogenous infection of kidney (pneumonia).
34. Acute empyema.
35. Empyema (abdominal symptoms).
36. Fibrous stricture of rectum (recto-vaginal fistula).
37. Fracture of forearm (mal-union).
38. Fracture of forearm.
39. Subperiosteal hematoma.
40. Inguinal hernia.
41. Umbilical hernia.
42. Multiple herniæ.
43. Infected gall bladder.

CASE.

44. Stones in gall bladder.
45. Disease of bile passages and appendix (syphilis).
46. Disease of bile passages.
47. Stones in gall bladder.
48. Cancer of liver.
49. Tubal pregnancy.
50. Hemosalpinx.
51. Enteroptosis.
52. Enteroptosis, arthritis, pleurisy, endocarditis.
53. Enteroptosis.
54. Ptosis of abdominal and pelvic viscera.
55. Enteroptosis, nephroptosis.
56. Enteroptosis.
57. Gastro-enteroptosis.
58. Gastro-enteroptosis.
59. Gastro-enteroptosis, arthritis (double cataract).
60. Gastro-enteroptosis, nephroptosis.
61. Ptosis of abdominal viscera.
62. Gastro-enteroptosis.
63. Enteroptosis.
64. Ptosis of abdominal and pelvic viscera.
65. Goiter (syphilis).
66. Cystic goiter; cancer of uterus.
67. Acute Graves' disease.
68. Graves' disease.
69. Graves' disease; enteroptosis.
70. Graves' disease.
71. Graves' disease.
72. Graves' disease.
73. Chronic appendicitis.
74. Chronic appendicitis.
75. Chronic appendicitis; myoma of uterus.
76. Acute appendicitis (diabetes).
77. Acute appendicitis; diffuse peritonitis.
78. Chronic appendicitis (typhoid fever).
79. Acute appendicitis (osteomyelitis of femur).
80. Chronic appendicitis.
81. Acute abdominal infection unexplained.
82. Acute metritis and salpingitis.
83. Myoma of uterus, visceral ptosis.
84. Myoma of uterus.
85. Retroversion of uterus (malingering).
86. Myoma of uterus.
87. Sloughing fibroid of uterus; peritonitis.
88. Intestinal obstruction from ptosis.
89. Pelvic hematocele.
90. Ovarian cyst; twisted pedicle.
91. Large ovarian cyst.
92. Salpingitis, pernicious vomiting of pregnancy.

CASE.

93. Periproctitis.
94. Ulcer of rectum.
95. Fistula in ano; gonorrhea.
96. Tuberculous testis.
97. Gonorrheal epididymitis.
98. Abdominal adhesions; multiple operations; visceral ptosis.
99. Abdominal adhesions.
100. Retention of urine; gumma of brain.

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